

WHEN IN A QUESTION OF QUALITY

specify *T. & W. Farmiloe, Limited.*

for Sheet Lead, Lead Pipe, Brasswork and Sanitary Fittings



Manufacturers for over a hundred years, Farmiloe's have earned an enviable reputation for first-class workmanship plus the finest materials.

**SHEET LEAD AND LEAD PIPE**  
for all purposes and to any appropriate B.S. specification.

**SILVER COPPER LEAD PIPE**  
to B.S.S. 1085.

**LEAD TAPE AND WIRE**

**COMPO PIPE, LEAD TRAPS AND BENDS**

**SOLDER**  
plumbers', tinmans' and blowpipe  
to B.S.S. 219.

**LEAD WASHERS**  
for galvanized iron roofing.

**BRASSWORK**

Cast Plumbers' Brasswork to Architects' specification.

Large size valves of all kinds,  
 $\frac{1}{2}$ " to 3" Stopcocks and  $\frac{1}{2}$ " to 4"  
Ball-valves a speciality.

**SANITARY EARTHENWARE AND FIRECLAY**  
and all complementary fittings.

Our Technical Department is at your disposal for advice and information

**T. & W. FARMILOE LIMITED**



TRADE MARK

**WESTMINSTER, S.W.1**

Tel: VICTORIA 4480

L.L.



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HOW MUCH

-----

DOES AN ARCHITECT

-----

NEED TO KNOW

-----

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ABOUT ELECTRIC CABLES

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Let's admit it . . . no architect *needs* to know every detail of a wiring installation. He leaves that, very often, to the electrical contractor.

But he'll need to know a reliable make of cables to specify, with a type to suit *every* purpose.

For his own safeguard, it will pay him to remember BICC.



BRITISH INSULATED CALLENDER'S CABLES LIMITED  
21 BLOOMSBURY STREET, LONDON, W.C.1



# Build it with UNISTRUT

WITH UNISTRUT  
AND IMAGINATION YOU BUILD IT  
BETTER AT LOWER COST

## HOW TO BUILD WITH UNISTRUT

"Unistrut" Channel with continuous slot.



Wedge shaped insurmed edges to take serrated grooves of "Unistrut" Nut.

"Unistrut" Locking Nut with serrated grooves.



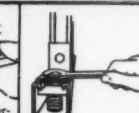
Serrated grooves "bite into" insurmed edges of Channel for positive location.



Insert Locking Nut anywhere along continuous slot of channel.



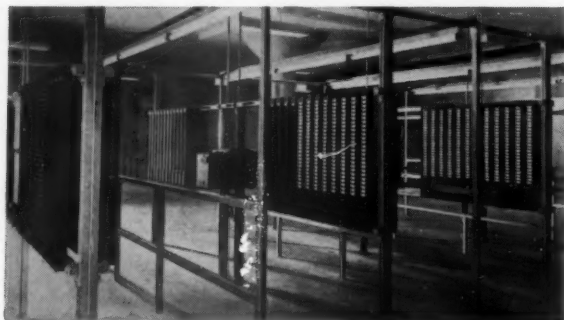
Rounded edges of nut permit easy insertion. Spring (your third hand) holds nut snugly in place for bolting.



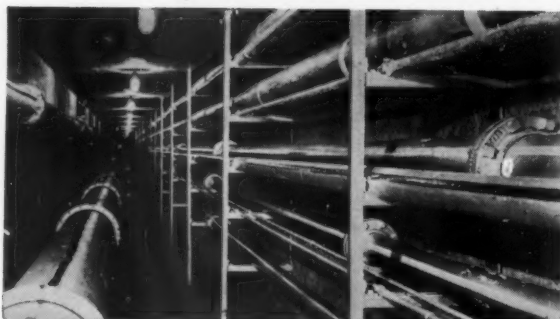
Assemble fitting. Nut and Bolt—a turn of the spanner, it's done.



Heavy duty bar stock rack, P1000 construction. Instantly adjustable and re-usable.

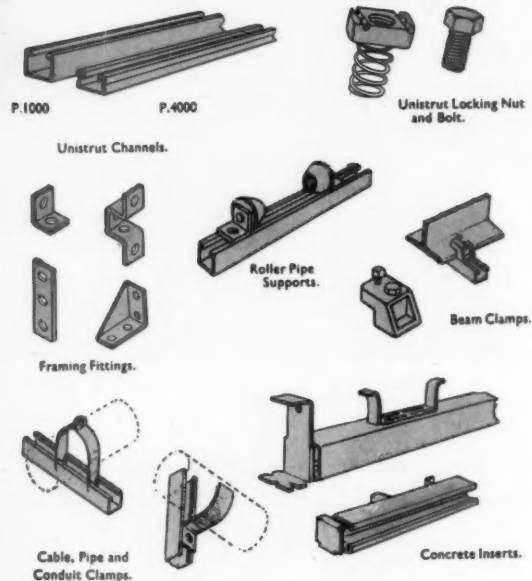


Time Card installation. Neat appearance, rigid construction. With Unistrut the fluorescent lighting problem is solved too!



Unistrut concrete inserts, Pipe clamps and metal framing in tunnel piping installation.

## Typical UNISTRUT fittings



**UNISTRUT**—the new answer to old problems, frame, rack, suspend, support all electrical and mechanical equipment, the quicker and easier Unistrut way. It's cheaper, too.

ALL - PURPOSE

METAL

FRAMING



**UNISTRUT** Division of  
**Sankey-Sheldon**

LTD.  
Dept. (U2/ARI) 46 CANNON STREET  
LONDON, E.C.4 Tel: CITY 4477 (12 lines)

---

*The name that stands supreme for product and service*

---

*Wherever  
wheels turn  
or feet tread*



**VAL DE TRAVERS ASPHALTE LTD.**

21-22 OLD BAILEY, LONDON, E.C.4.

Phone: CITY 7001 (10 lines) Grams: TRAVERSABLE, CENT, LONDON

BRANCHES: BIRMINGHAM · CANTERBURY · EXETER · GLASGOW · LINCOLN · LIVERPOOL · MANCHESTER · NEWCASTLE-ON-TYNE



**OFFICES**

**CHURCHES**

**CINEMAS**

Architects and Builders are invited to get in touch with us about Paxtiles whenever good sound insulation, coupled with outstanding decorative treatment, is desirable.

What a difference good sound insulation makes. Newalls (Regd. Brand) Paxtiles, which are available in many sizes to suit every possible requirement, have been used with outstanding success in cinemas, churches, offices, lecture theatres, etc.

# Newalls **PAXTILES**

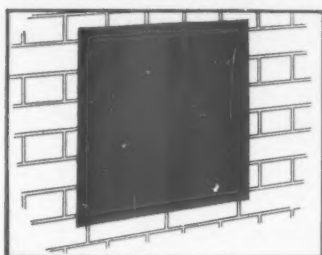
REGD. BRAND

NEWALLS INSULATION CO. LTD. *Head Office:* WASHINGTON, CO. DURHAM  
*A member of the* TURNER & NEWALL ORGANISATION *Offices and Depots at* LONDON, GLASGOW, MANCHESTER,  
 NEWCASTLE UPON TYNE, BIRMINGHAM, BELFAST, BRISTOL & CARDIFF. *Agents and Vendors in most markets abroad*

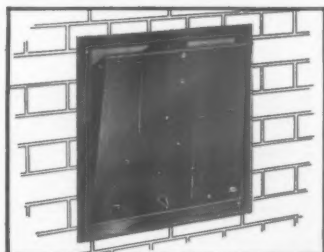
# The Finch Fuel Hopper

PROVISIONALLY PATENTED

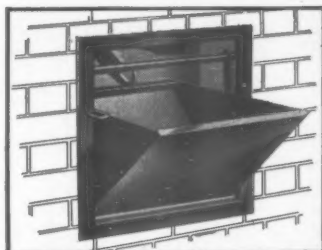
THE FINCH FUEL HOPPER IN OPERATION



CLOSED AND LOCKED



SET FOR OPENING  
BY COALMAN



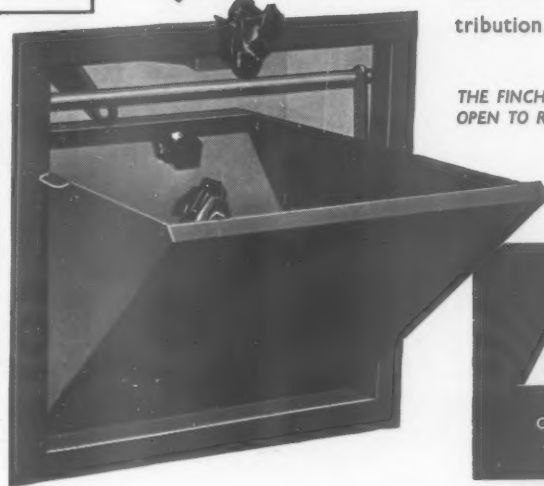
OPEN TO RECEIVE FUEL

**self closing  
automatic locking**

The Finch Fuel Hopper is the result of an architect's request to design and manufacture a fuel hopper for a block of flats. The specification was for a fuel hopper which was free from projecting handles and padlock fastenings, possessed of a locking device which could not be opened by unauthorized persons and able to operate in such a manner that it could not at any time foul the fuel.

The Finch designer solved this problem and thus added another practical contribution to the industry's progress.

THE FINCH FUEL HOPPER  
OPEN TO RECEIVE FUEL



THE  
*Finch*  
ORGANIZATION

B. FINCH & CO. LTD., Head Office & Works, BELVEDERE WORKS, BARKINGSIDE, ESSEX  
Telephone: VALEntine 8888 (30 lines)

Showrooms: FINCH CORNER, 679/687 EASTERN AVENUE, ILFORD, ESSEX

marbles are  
part of the  
game!



Thousands of marbles—near relatives of those beloved by schoolboys—in batteries of ball mills, begin the controlled process of actually producing many of Cellon's paints and finishes. These ball mills, each of which is capable of grinding down pigment as fine as that used in cosmetics, deal each week with many tons of top grade colour. The infinite care taken in the selection and milling of these pigments is only one stage of manufacture but it is reflected in the whole process of Cellon paint making.



*Enclosed high speed triple roll mill for pigment paste grinding.*



*Unloading from 300 gallon ball mill.*



*Preliminary mixing of pigment paste prior to roller grinding.*



**Cerrux  
Decorative  
Paints**

The Cerrux range of Decorative Finishes includes suitable materials for all classes of decoration, whether for the home, public buildings, or the more rigorous conditions of the factory. There is also available Cerrux Satin Emulsion Paint—the ideal wall finish. The Building and Decorating Division of Cellon Limited will gladly give advice on specifications and colour schemes.

**CELLON FINISHES *the best***

CELLON LIMITED • KINGSTON-ON-THAMES • PHONE: KINGSTON 1234  
CVS-806





THE front and interior of these new premises were carried out by our organisation to the designs of Bronek Katz & R. Vaughan.

Architects are invited to consult us with the assurance that their schemes for Stores, Shops, and all Architectural Decoration will receive faithful interpretation by an organisation with a long and varied experience.

OUR DESIGN AND TECHNICAL SERVICE IS READILY AVAILABLE TO ASSIST IN THE DEVELOPMENT OF ALL TYPES OF DECORATIVE SCHEMES.



# Harris & Sheldon Ltd

*The organisation with a background of 75 years' experience*

BIRMINGHAM • LONDON • MANCHESTER • GLASGOW

LGB



*Central heating, hot water supply, and laboratory services  
installed at the headquarters of the Printing and Allied  
Trades Research Association, Leatherhead.*

*Architects: Westmore and Sanders, F.R.I.B.A.*

**EDWD. DEANE & BEAL LTD**

**HEATING · VENTILATION · AIR CONDITIONING  
HOT WATER SUPPLY**

**TEMPLE CHAMBERS · TEMPLE AVENUE · LONDON · EC4**

Telephone CENTRAL 1851-2

*Established on Old London Bridge in A.D. 1700*



**“The tone gradations are *exactly* right”**

Obtaining subtle gradations of hue has always been difficult in dealing with monochromatic renderings—in fact it has been well nigh impossible. Some decorative schemes require, for example, the ceiling in one shade, the wall in another and the woodwork in yet another. To such problems Robbialac Colorizer Paints in 999 colours are the answer. Each colour is available in a large number of gradations . . . whatever the tone, Colorizer can give it, quickly and simply.

Robbialac Colorizer Paints offer a choice of 999 colours in Super Gloss Enamel, Eggshell Enamel and Suede Finish—each with a matching undercoat. There is also Robbialac Plastic Emulsion Paint in 99 pastel shades.



**The Architectural Bureau of** Jenson & Nicholson Ltd. offers Architects a complete colour advisory service and will liaise with executives and contractors if desired. A brochure on Robbialac Colorizer Paints and their possibilities, especially written for Architects, is available on request.



Robbialac Colorizer Paints were used in the decoration of the dining room of the Grand Hotel, Manchester, shown here. Architects have unlimited scope in creating attractive colour schemes, safe in the knowledge that Colorizer will ensure their ideas being correctly interpreted.

**ROBBIALAC** *Colorizer* **PAINTS**

JENSON & NICHOLSON LTD., DEPT. A.R.5, 36 ST. JAMES' ST., LONDON, S.W.1. HYDe Park 6060



*over 3,000 Plannair grilles, passing over 250,000 c.f.m. of warmed and filtered air, are installed at B.O.A.C.'s new Headquarters Building, London Airport.*

Plannair grilles are individually controlled, neat in appearance with adjustable louvres. They are installed as illustrated in the administrative departments, restaurant and canteen, transepts and instrument department, to give a lifetime of unobtrusive service. Our advisory engineers will be glad to explain the principle and practice of Plannair grilles, fans and blowers to you. In the first instance, write for details.



CONSULTING ARCHITECTS:  
SIR OWEN WILLIAMS AND PARTNERS.  
CONSULTING ENGINEERS:  
E. WINGFIELD BOWLES AND PARTNERS.  
VENTILATION CONTRACTORS:  
THE NORRIS WARMING CO. LTD.



**PLANNAIR LTD**

WINDFIELD HOUSE, EPSOM ROAD, LEATHERHEAD, SURREY

TELEPHONE: LEATHERHEAD 4091/3 AND 2231



TELEGRAMS AND CABLES: PLANNAIR LEATHERHEAD

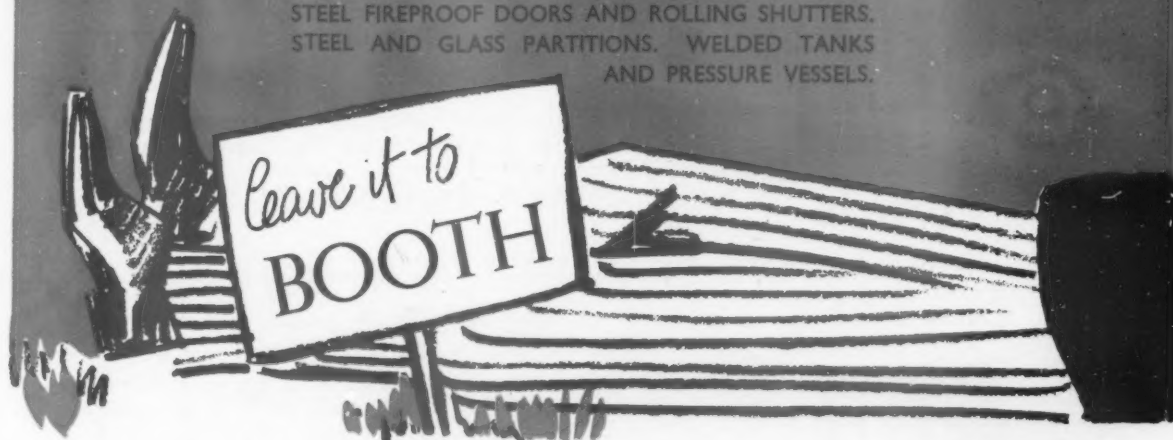


## Picture of Mr. Smith extending his factory

Supine, serene, successful, and supremely happy is Mr. Smith. The problem of adding two more bays to his factory may cause anxiety to lesser mortals, but not to sagacious Mr. Smith! He succeeds in extending his legs *and* the capacity of his business at one and the same time. His decision to use steelwork and let BOOTHS get on with it\* makes sure that he'll be well satisfied with the result and that his brow will remain unfurrowed.

*\*Mr. Brown and Mr. Robinson please copy with advantage!*

STRUCTURAL STEELWORK FOR FACTORIES, BRIDGES,  
POWER STATIONS, GARAGES, STORES, SCHOOLS.  
STEEL FIREPROOF DOORS AND ROLLING SHUTTERS.  
STEEL AND GLASS PARTITIONS. WELDED TANKS  
AND PRESSURE VESSELS.

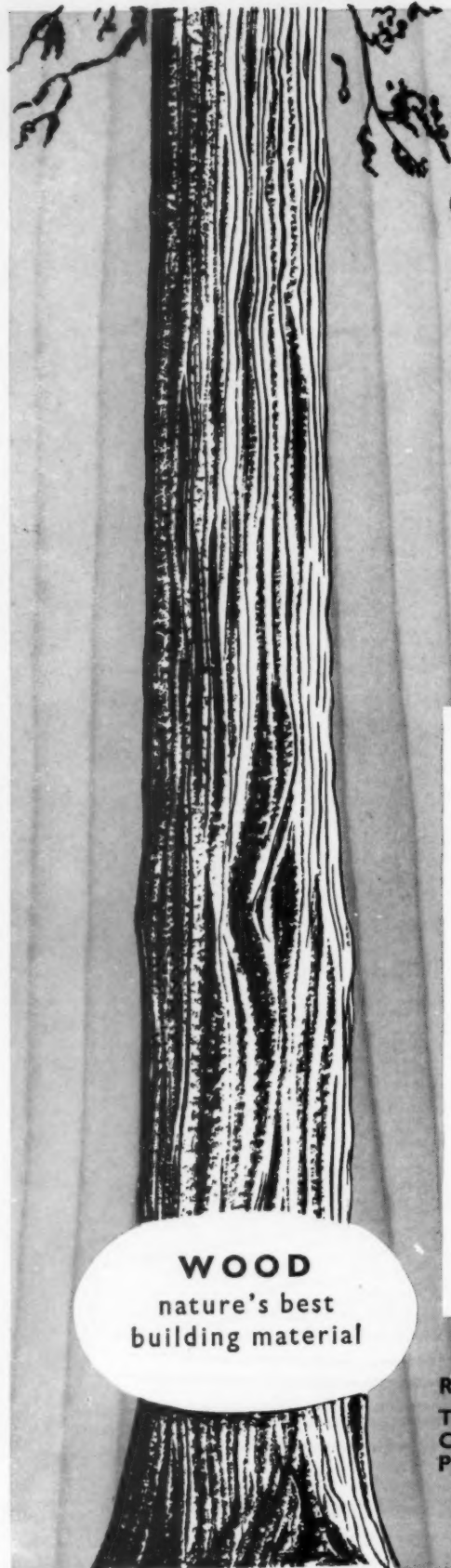


JOHN BOOTH & SONS (BOLTON) LTD., HULTON STEELWORKS, BOLTON

Telephone: BOLTON 1195

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Telephone: ABBey 7162



## CANADIAN

# *Western Red Cedar*

a warm toned wood that combines good working qualities with exceptionally high resistance to decay and changes in moisture content.

### TYPICAL USES

Boat construction, fish-net floats, conduits and shingles for roofing

Exterior finish, weather boarding or siding, window sashes, greenhouse construction

Fence-posts, telegraph and telephone poles, piling

Cabinets, panelling, clothes closets and chests  
Pattern making and pencil slats

### SPECIAL ADVANTAGES

Seasons readily with very little shrinkage — retains size and shape

Very durable in contact with soil or in other positions favouring decay

Straight grained — splits readily and uniformly

Good glueing properties

Quite soft and light — takes smooth satiny finish — takes stains and paints well

**FOR FURTHER INFORMATION** concerning Canadian woods contact The Commercial Secretary (Timber), Canada House, Trafalgar Square, London S.W.1.

**WOOD**  
nature's best  
building material

Reproduced here is figure of Western Red Cedar. This advertisement is one of a series featuring Canadian Douglas Fir, Spruce, Red Pine, White Pine and Pacific Coast Hemlock.

TIM 4





*Hogarth School, Brentwood*  
*Essex County Council*

**Architect : H. Conolly, F.R.I.B.A.**

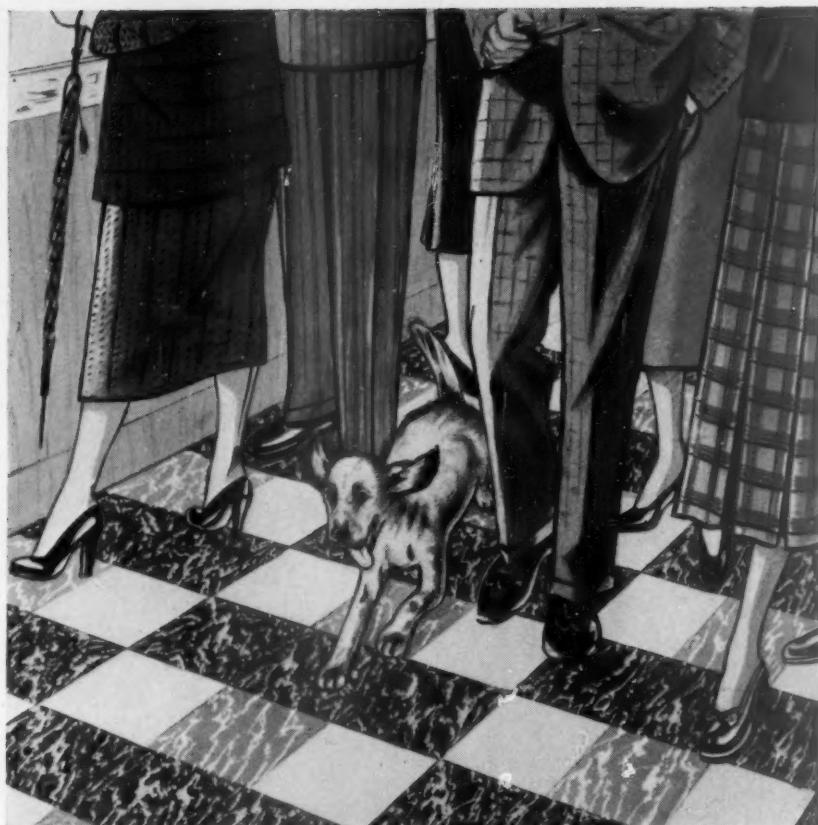
# BEACON

**ZINC SPRAYED  
PURPOSE MADE STEEL WINDOWS**

**JOHN THOMPSON BEACON WINDOWS LIMITED · WOLVERHAMPTON**



## Busy movement afoot?



## **PHENCO** *can take it!*

Wherever traffic is likely to be heavy—in banks, offices, shops, restaurants—Phenco flooring cheerfully takes the load, and comes up bright as new after the ordeal. But there is more to Phenco than just hard-wearing quality. Its non-slip surface and sound-deadening resilience make it ideal for schools and nurseries. The wide range of colours and patterns make it particularly suitable for places where appearance is of first importance.

(Phenco can be bought in either rolls or tiles, so there's infinite scope for decorative design.) And, of course, Phenco is proof against attack by most chemicals, so it's a natural choice for kitchens and laboratories.

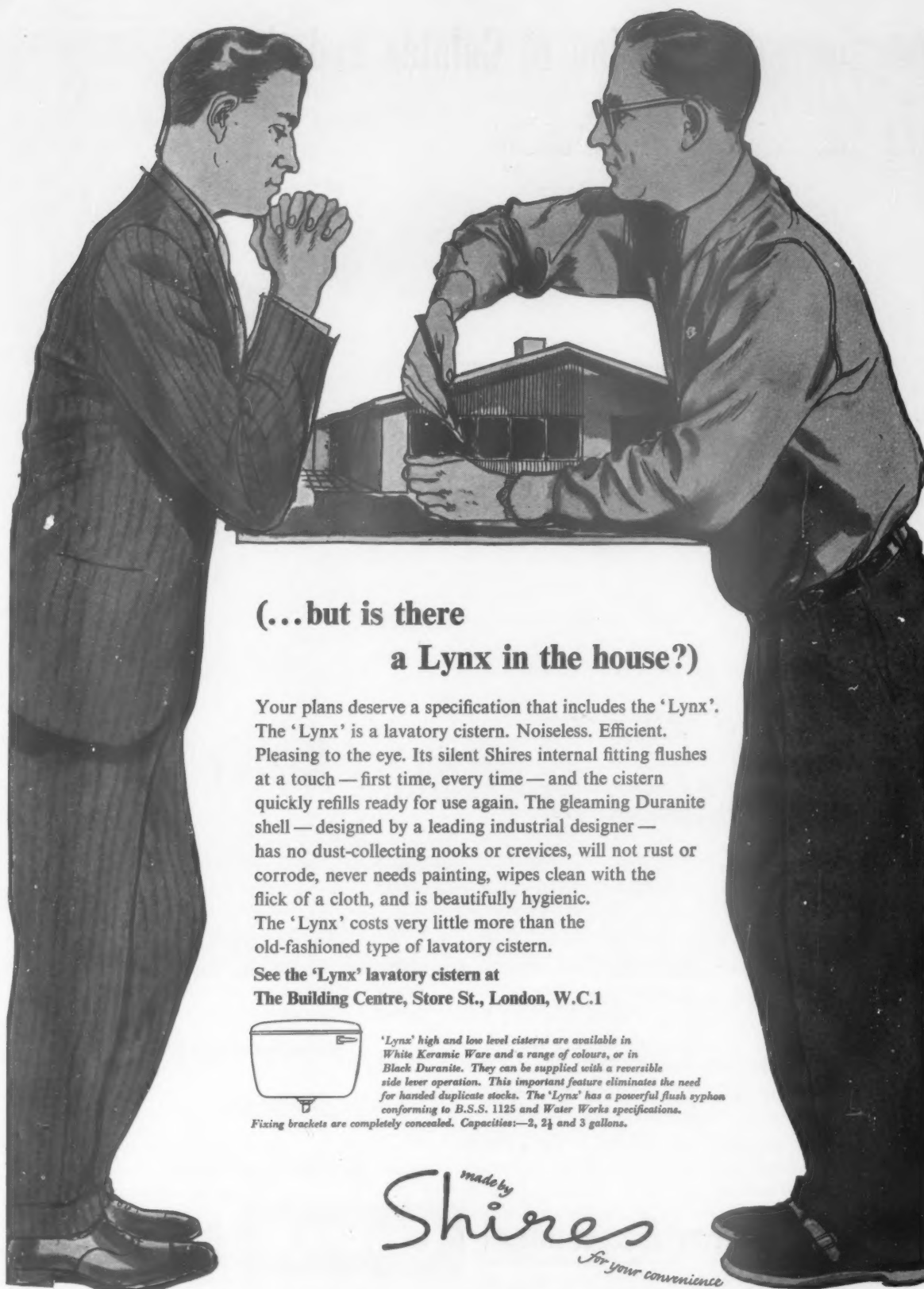
Taken all round, Phenco is a first-class flooring material for every purpose. It's not expensive either. Why not write for descriptive literature?

### **Phoenix Rubber Co. Ltd.**

91 BISHOPSGATE, LONDON, E.C.2

Phone: London Wall 3564 and 1622 Grams: Phenrub Stock London Works: 2K Buckingham Avenue, Trading Estate, Slough, Bucks.

OA/2113



## (...but is there a Lynx in the house?)

Your plans deserve a specification that includes the 'Lynx'. The 'Lynx' is a lavatory cistern. Noiseless. Efficient. Pleasing to the eye. Its silent Shires internal fitting flushes at a touch — first time, every time — and the cistern quickly refills ready for use again. The gleaming Duranite shell — designed by a leading industrial designer — has no dust-collecting nooks or crevices, will not rust or corrode, never needs painting, wipes clean with the flick of a cloth, and is beautifully hygienic. The 'Lynx' costs very little more than the old-fashioned type of lavatory cistern.

See the 'Lynx' lavatory cistern at  
The Building Centre, Store St., London, W.C.1



'Lynx' high and low level cisterns are available in White Ceramic Ware and a range of colours, or in Black Duranite. They can be supplied with a reversible side lever operation. This important feature eliminates the need for handed duplicate stocks. The 'Lynx' has a powerful flush syphon conforming to B.S.S. 1125 and Water Works specifications.

Fixing brackets are completely concealed. Capacities:—2, 2½ and 3 gallons.

made by  
**Shires**  
for your convenience

S.15

Shires are the largest manufacturers of moulded cisterns in the country. They also make W.C. pans and seats, flush-pipes and complete W.C. Suites. Leaflets from :—  
Division B, Shires & Co. (London) Ltd., Greenbottom Works, Guiseley, Yorks.  
(Factories also at London and Stoke); Shires (Ireland) Ltd., Stannaway Drive, Crumlin, Dublin.



# The thermal insulation of Celotex and the fire resistance of asbestos

*Combine in*

**CELOTEX  
F.R.I. BOARD**



Photo: Courtesy of Nuswift Ltd.

Now you can have both the high efficiency of Celotex cane fibre insulation and the fire resistance of asbestos. They have been combined with great success in Celotex F.R.I. Board. It consists of a core of strong durable Celotex cane fibre insulation sheathed on both sides with asbestos felt. It is as easy to handle and to decorate as normal Celotex insulation—and it is just as economical! Use Celotex F.R.I. Board for wall, roof and ceiling linings and partitions. Samples and further details of this all-British Celotex product will be gladly sent on request.

*In the B.S. 476 Surface Spread-of-Flame Test, Celotex Fire Resistant Insulating Board—Rated Class I—showed no spread of flame whatsoever!*

✱ **ECONOMICAL PRICE**

✱ **EASY TO USE**

✱ **EASY TO DECORATE**

**Another Economical**

**CELOTEX**

**product**

MADE IN GREAT BRITAIN WITH ALL-BRITISH MATERIALS BY

CELOTEX LIMITED • STONEBRIDGE PARK • LONDON, N.W. 10

Telephone: ELGar 5717 (10 lines)

*Stowe School, from a recent painting by Felix Kelly*



*Stowe School, in Buckinghamshire, is a modern Public School founded in 1923. The central building dates from the 18th Century, when it was the home of the Temple family. Oil-fired space heating was installed in 1947.*

## STOWE SCHOOL IS COMFORTABLY WARM EVEN IN WINTER

*It is heated easily and cleanly by oil fuel*

THERE ARE OVER five hundred boys at Stowe School in Buckinghamshire. They are fortunate enough to work in classrooms which are always kept at a comfortable temperature, however cold the weather may be. This temperature can be changed quickly and easily, just by setting a dial—because the School has an oil-fired space heating system.

Ease of control, and freedom from

fluctuations in temperature, are by no means the only benefits of this most efficient of modern heating systems. Another advantage is simplicity of operation. There is no stoking to be done, and no ash to clear out. Then again, oil is a clean-burning fuel. And there are no supply problems.

When you are designing or altering a largish building, whether private house

or office block, factory or school, it will be worth your while to consider making provision for an oil-fired heating system. If you would care for more detailed information about this most efficient means of heating space or water, please do not hesitate to get in touch with Shell-Mex and B.P. Ltd., Fuel Oil Dept. 10G, Shell-Mex House, Strand, London, W.C.2.

For over forty years the

Jackson Electric Stove Co. Ltd.

**Consult a specialist** have been specialists  
in large scale Electric  
Cooking Equipment.  
Consult us for  
individual items or  
complete installations,  
whether you are cooking for  
two or two thousand.

*It pays to specify*

for large scale  
Electric  
Cooking Equipment

*Jackson*

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- CHEFS' RANGES
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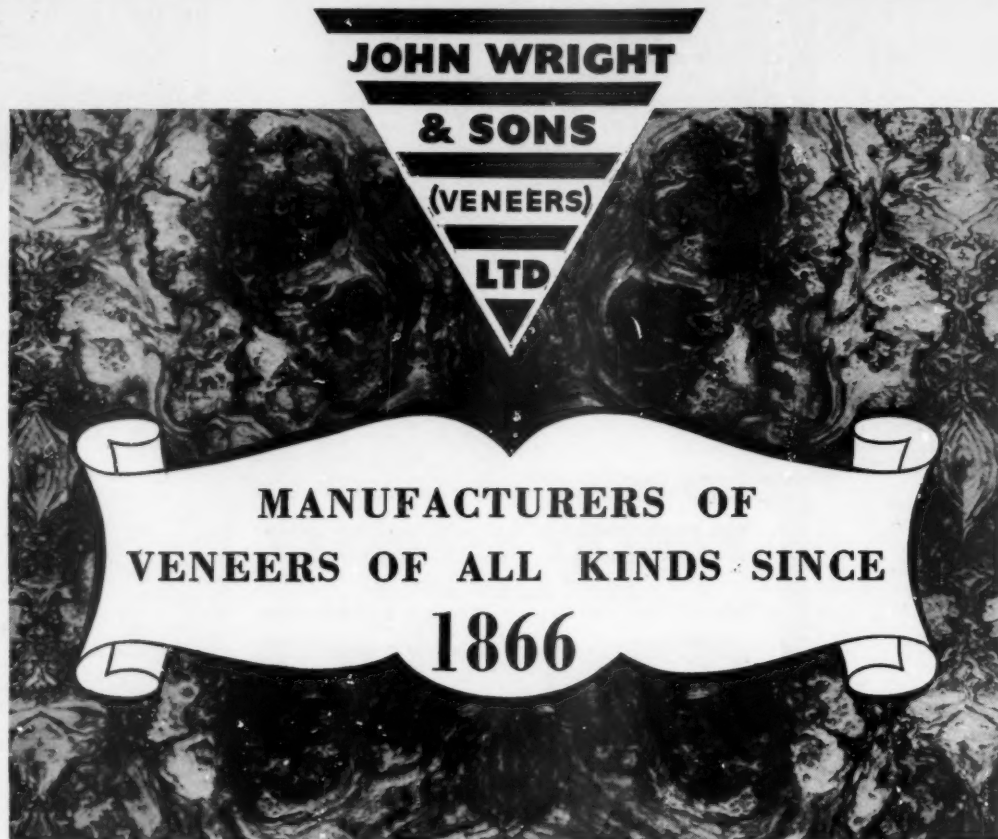
THE JACKSON ELECTRIC STOVE CO. LTD., 143 SLOANE STREET, LONDON, S.W.1



**ROBERT KEARSLEY**  
**YORK ROAD, RIPON** & CO  
 Telephone - RIPON 415-6      Telegrams : KEARSLEY, RIPON

*Decorative Finishes*

R. K. DURO	<i>Durable Protective Paint</i>
SECOMIX	<i>Emulsion Paint</i>
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KEARSLEY'S	<i>Oxide Universal Primer</i>
KAPITIA	<i>Copal Varnish</i>



*Decorative & Constructional*



We are pleased to offer you the opportunity  
to inspect full leaf samples at your own  
address. Ask for our Sample Van to call.

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Here  
come  
the

new

**MARLEY**

*wall tiles*

- ★ Thermoplastic and flexible
- ★ Easily fixed with adhesive
- ★ In a range of pastel shades with decorative strips and angles in stronger colours
- ★ Standard size  $4\frac{1}{2} \times 4\frac{1}{2} \times \frac{1}{2}$ "



Ask our representative to call and show you samples.  
The Marley Tile Company Ltd., Riverhead, Sevenoaks, Kent Sevenoaks 2251



# HILLS

## GLASS CURTAIN WALLING



*Illustrated above:—Chaddesden County Secondary School, Derby.  
Architects Co-Partnership in collaboration  
with F. Hamer Crossley, Dipl. Arch. (L'pool),  
F.R.I.B.A., Assistant County Architect New  
Schools, F. K. Hicklin, A.R.I.B.A.*

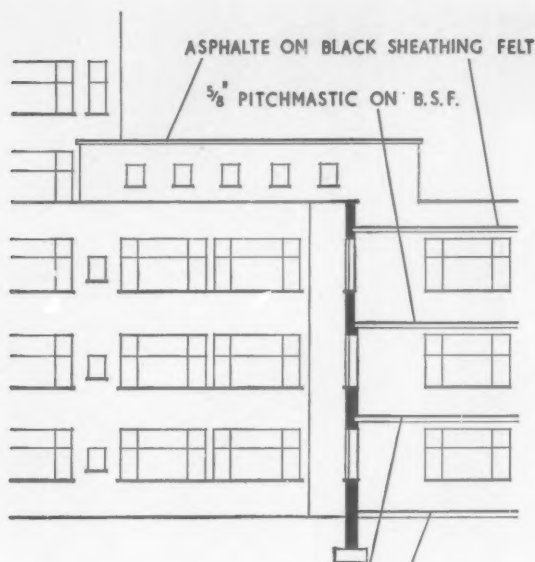
Developed for buildings designed on co-ordinated modular construction, Hills Glass Curtain Walling provides a most economical wind and weatherproof permanent cladding. Pleasing in appearance and speedily erected, it is suitable for all types of buildings, particularly for multi-storey constructions with large mass areas. Hills system of Glass Curtain Walling is the result of many years' practical experience, and is being extensively adopted in this country and in Canada. Architects are invited to contact their nearest Branch Office for full particulars of any of the Company's products.

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PERMANENT  
DISPLAY  
AT



## HILLS (WEST BROMWICH) LIMITED

ALBION ROAD, WEST BROMWICH, STAFFS. Tel.: WEST BROMWICH 1811 (15 lines). LONDON: Chapone Place, Dean Street, W.1. Tel.: GERrat 0526/9  
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*Specify  
Efficiency and Economy  
on your  
Roof and Floor Plans*

In other words, specify Black Sheathing Felt. There's no other insulation quite like B.S.F. for absolute efficiency—thanks to the specially selected fibres of flax and jute perfectly fluxed with the pitch by the most modern process. There's no other insulation like B.S.F. for economy—thanks to its easy working and permanency.

For more than forty years architects and builders have specified and used B.S.F. And the B.S.F. specified forty years ago for all types of buildings is still serving as a perfect underlay for mastic asphalt roofs and floors.



**BLACK  
SHEATHING  
FELT**

*Specify and use it as the Underlay to  
Mastic Asphalt Roofs and Floors*



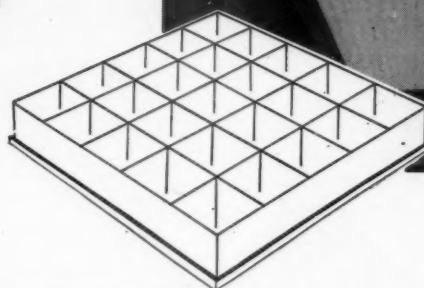
Manufactured by:

F. McNeill & Co. Ltd., London; Permanite Ltd., London; John Rogers Ltd., Belfast; D. Anderson & Son Ltd., Manchester; Engert & Rolfe Ltd., London; John Erskine Ltd., Belfast; Robt. McCalmont & Sons Ltd., Belfast

# Luve-Tile

## the perfect lighting medium

"Luve-Tile" by Harris & Sheldon Electrical sets a new standard in luminous ceilings. Suspended below the normal lighting fittings to form a false ceiling it combines attractive appearance with perfect light diffusion. Three components only are necessary for the complete ceiling: the 13 oz. foot-square tile, the joiner clip and the hanger assembly. Standard prices make estimation easy. Measure the ceiling and you know *at once* just how many units you need and what they will cost.



## ... at small cost

so easy to install ...

No elaborate preparation is necessary. "Luve-Tile" Units clip together to form "doors" suspended from simple hangers. All doors hinge down on the hangers for access to light fittings and any other equipment in the plenum. "Luve-Tile" builds up to any size—its versatility is endless.

in white and pastels ...

"Luve-Tile" is made in translucent polystyrene, ultra lightweight and available in white, green, pink and blue.

**HANDSLITE**



- 1 Measure off ceiling and locate hanger positions.
- 2 Fit hanger to brackets and adjust to required length.
- 3 Form 'doors' by clipping together "Luve-Tile" units.
- 4 Swing 'doors' into position and check alignment.

Full installation instructions with each supply.  
DESCRIPTIVE LITERATURE and PRICE LIST available from :—

### Harris & Sheldon (ELECTRICAL) Ltd.

Head Office and Showroom

Telephone: Birmingham CENTral 7101.

STAFFORD STREET, BIRMINGHAM 4

London PRImrose 0747.

Nottingham 53630.

L.G.B.

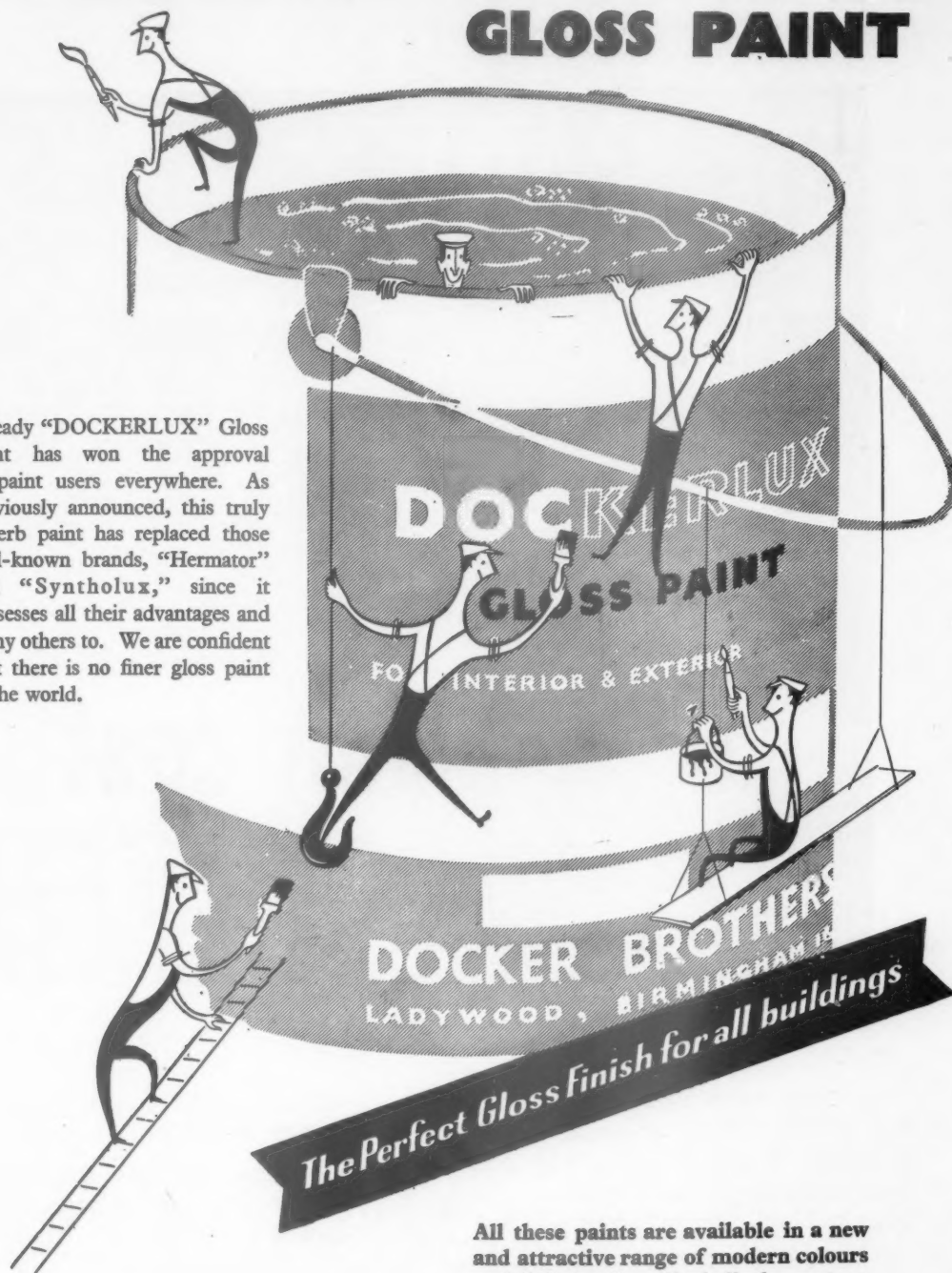


An instant success.

# DOCKERLUX

## GLOSS PAINT

Already "DOCKERLUX" Gloss Paint has won the approval of paint users everywhere. As previously announced, this truly superb paint has replaced those well-known brands, "Hermator" and "Syntholux," since it possesses all their advantages and many others to. We are confident that there is no finer gloss paint in the world.



*The Perfect Gloss Finish for all buildings*

All these paints are available in a new and attractive range of modern colours and full details will gladly be sent on request.

DOCKER BROTHERS, LADYWOOD, BIRMINGHAM 16. London Showrooms: 17 Berners St., W.1.

P.S.

*Don't forget also*

**VYDOK**

**THE IDEAL EMULSION PAINT**

in matt and eggshell finishes

# PATENT GLAZING



*Interior View of Factory*

This is a modern factory for wool spinning and the process calls for fairly high humidity together with controlled temperature.

DOUBLE PATENT GLAZING was used to minimize the possibility of fluctuation in temperature through heat losses and also to avoid the excessive condensation

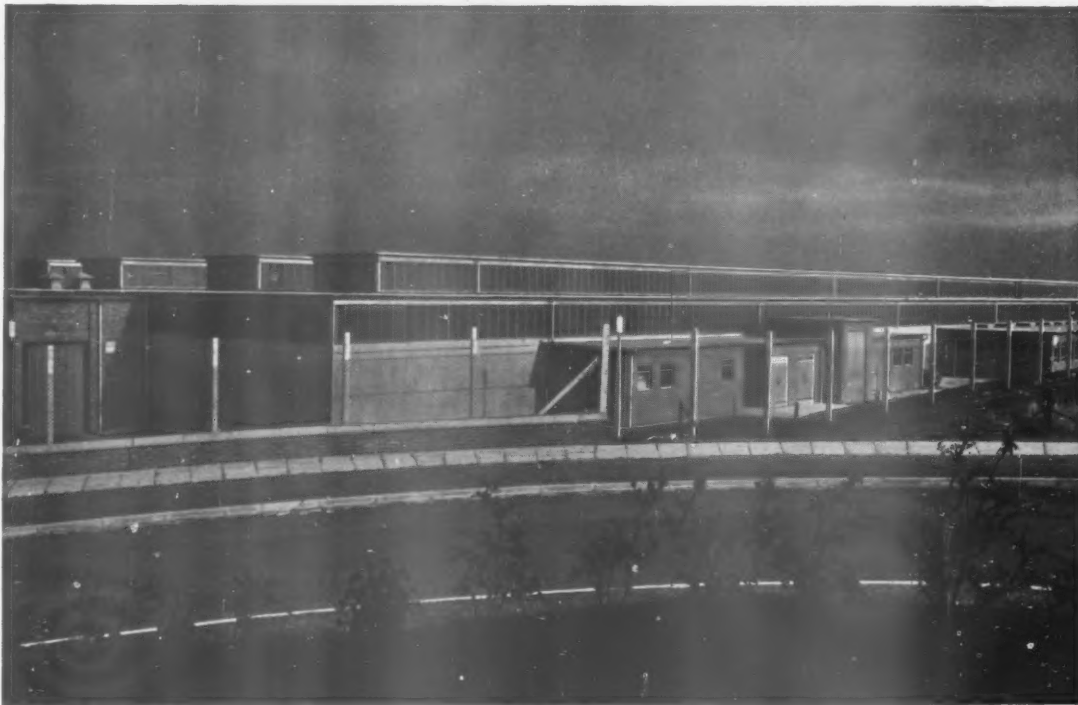
which would otherwise occur under such conditions.

The thermal insulating and other special properties of double patent glazing enabled the Architects to air-condition the factory and thus achieve the most advantageous working conditions both for the process and the operatives.

*Architects: William Holford & Partners, Liverpool & London*

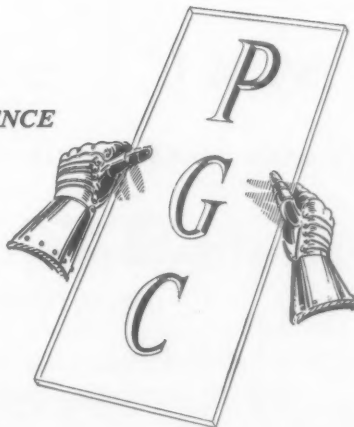
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*External View of the Factory*

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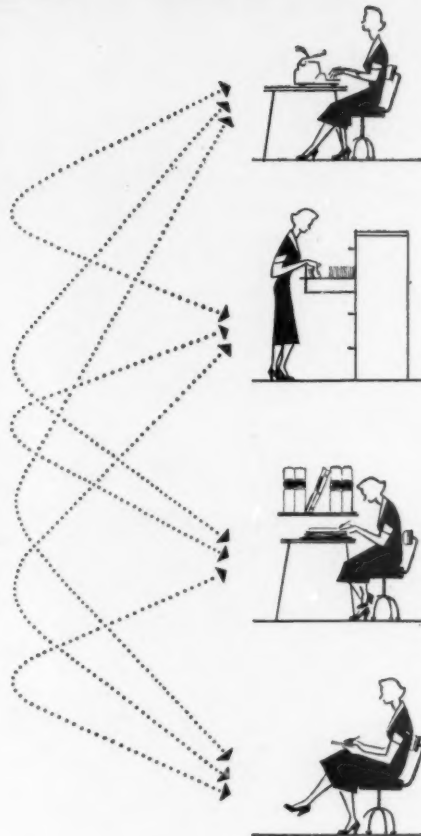




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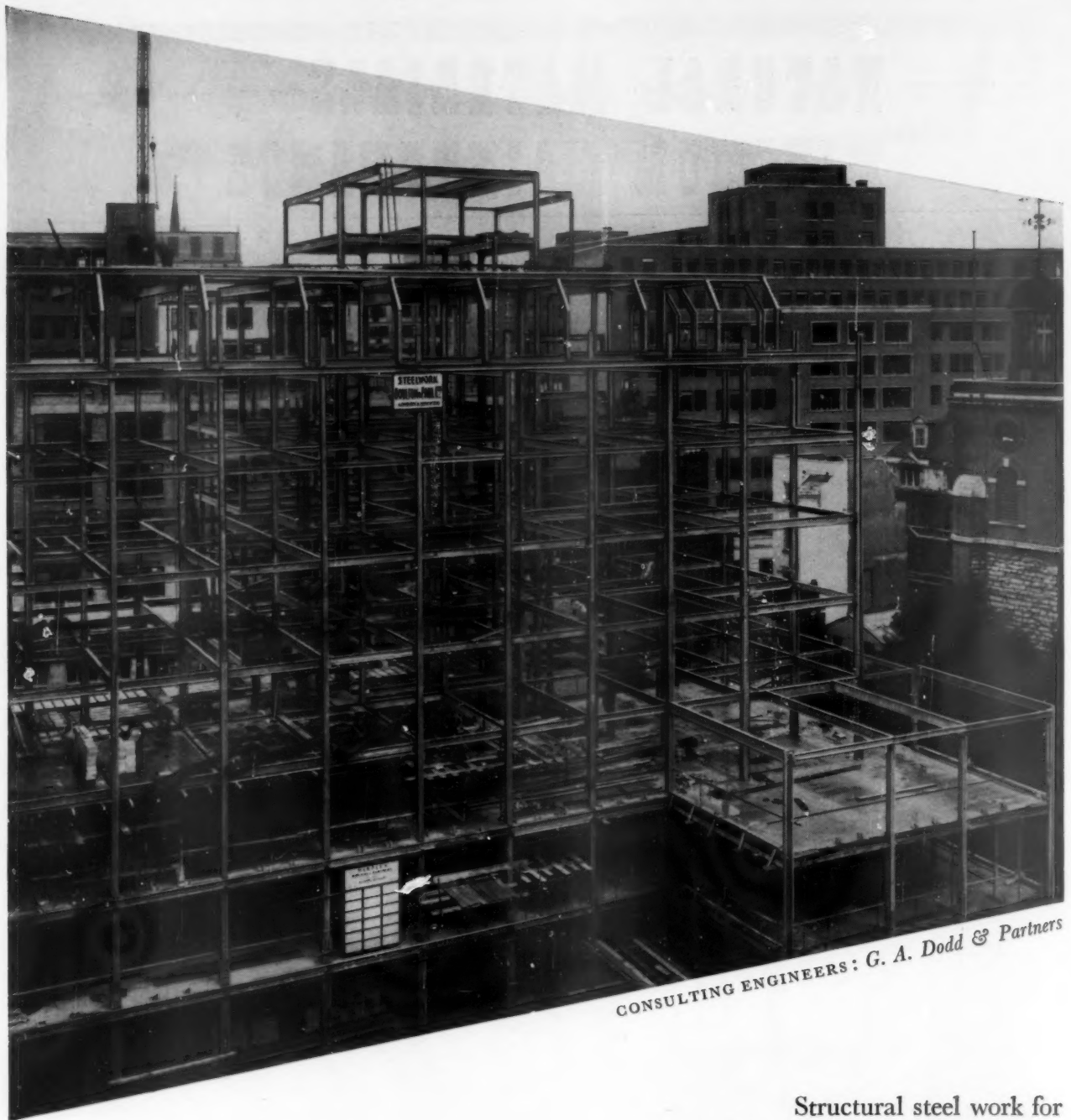
*School at Oldbury, Worcester. Architects: Yorke, Rosenberg and Mardall in association with F. W. B. Yorke and Barker.*

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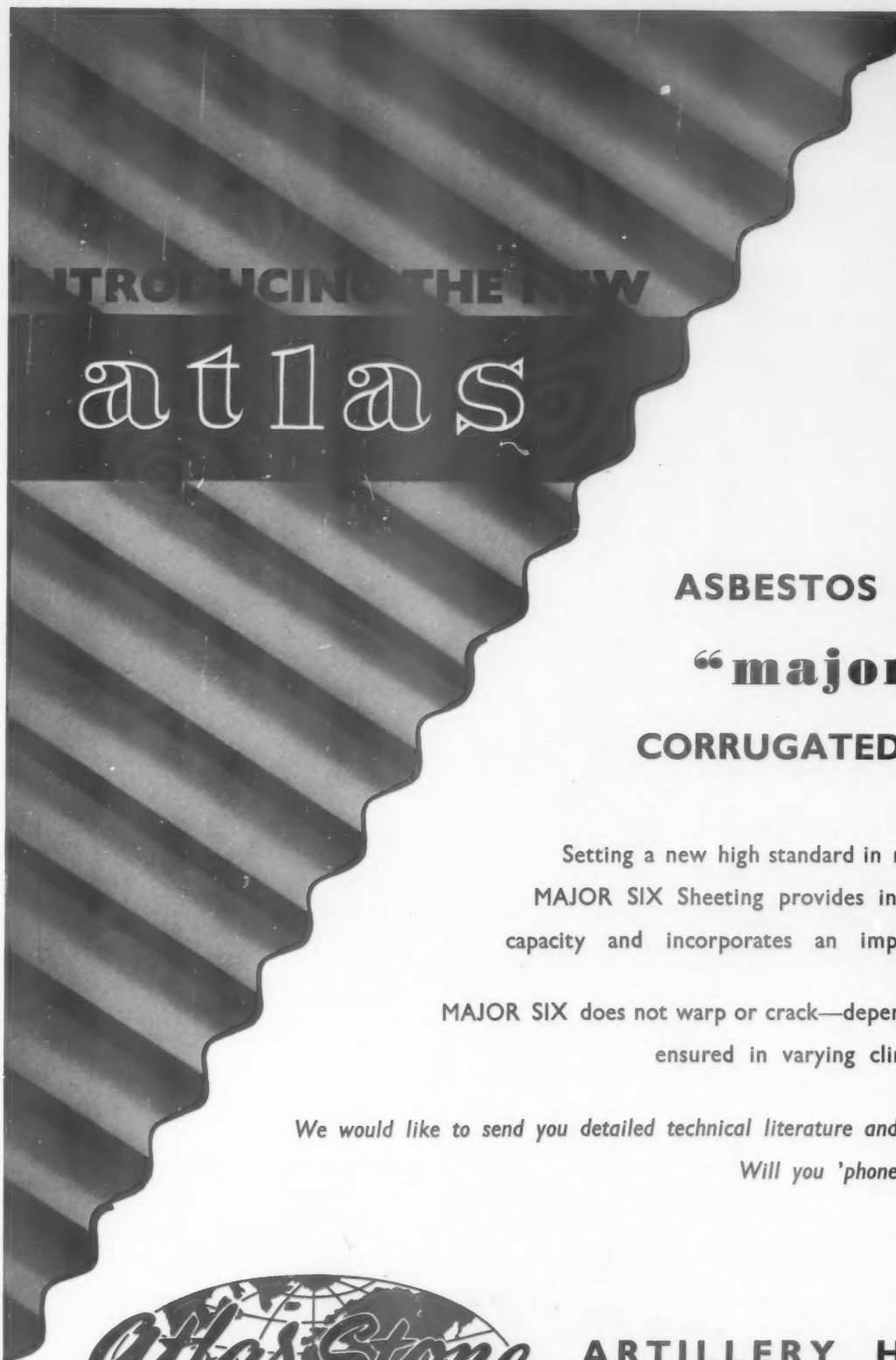
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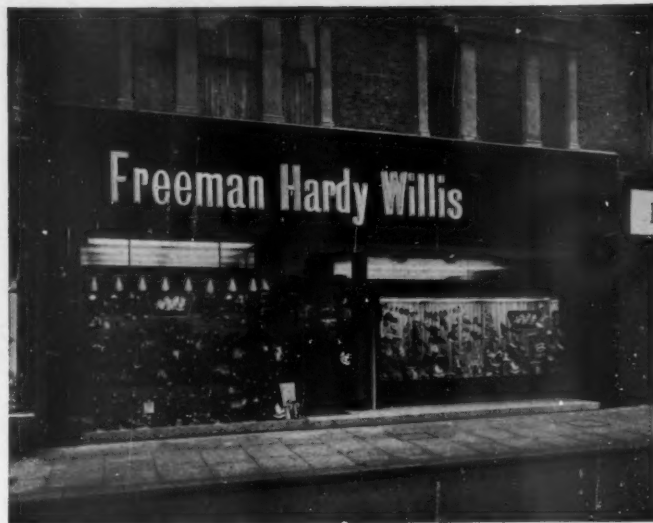


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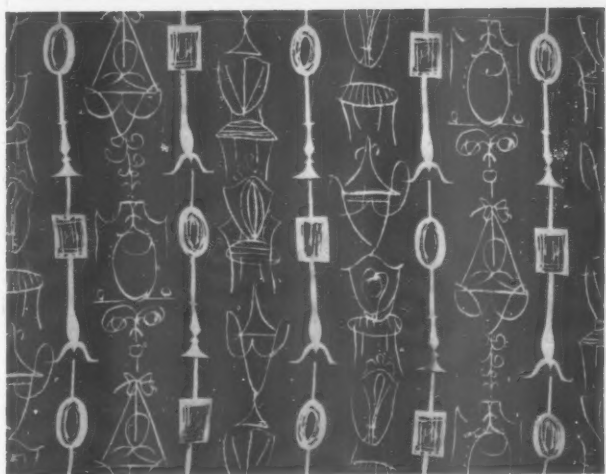
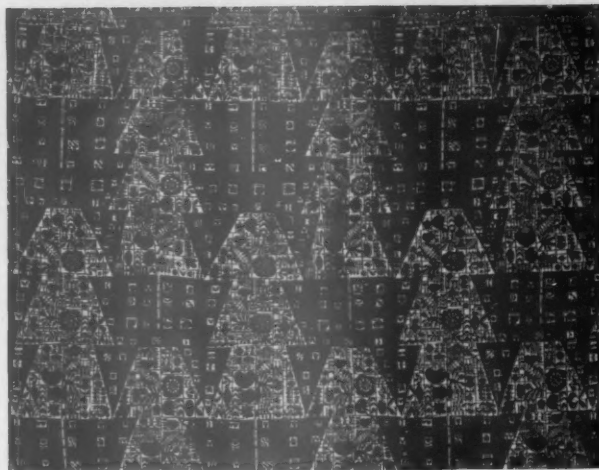
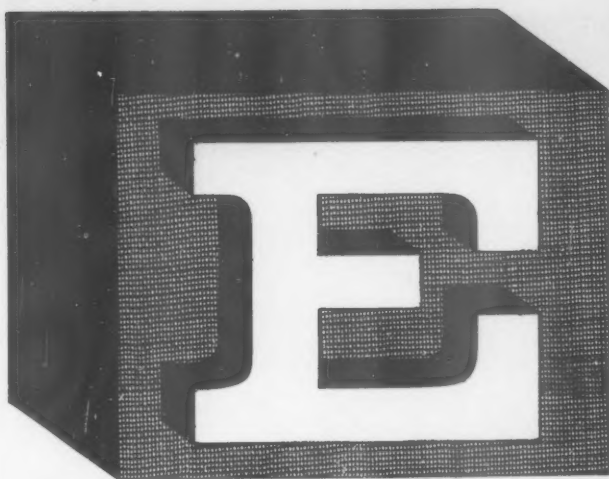
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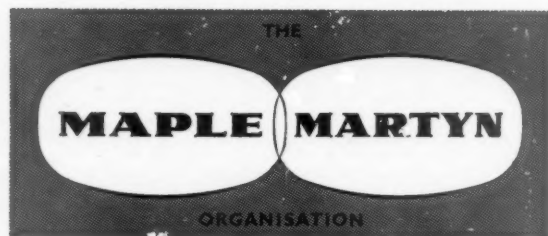


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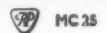


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*On the left, S.P. 125, a design by Eileen Bell on cotton satin, available in 3 colour-combinations. On the right, S.P. 132, a design by J. D. H. Cattleugh on rayon satin, available in 4 colour-combinations.*

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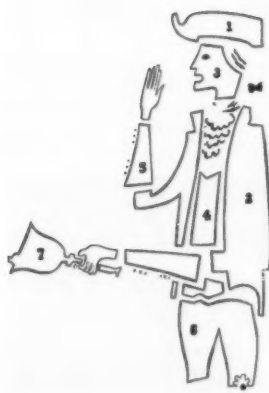
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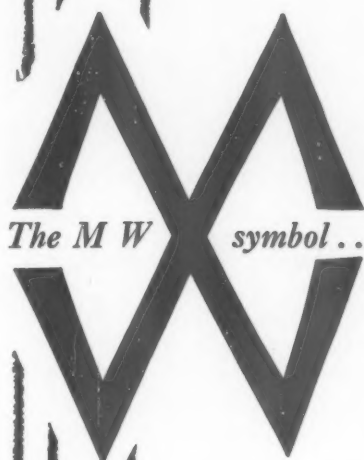


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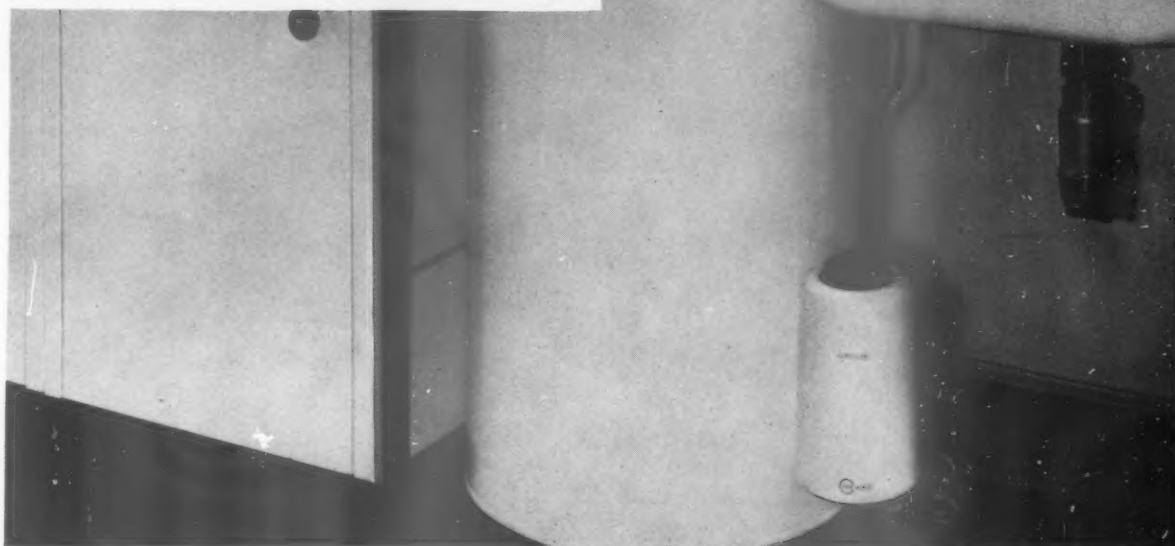
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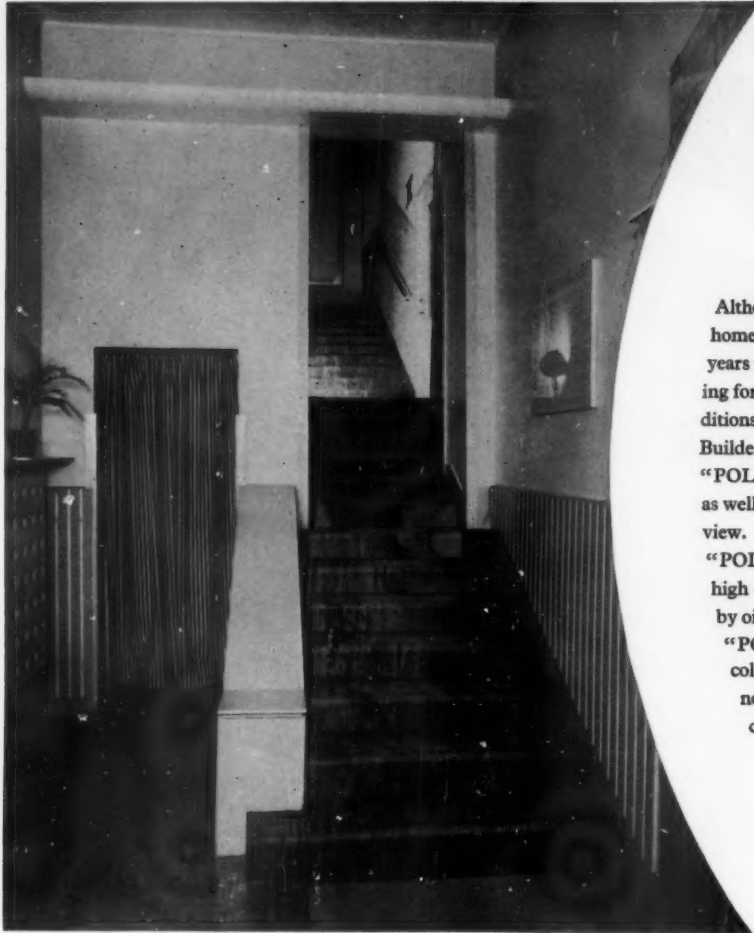


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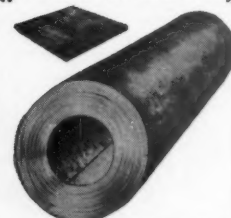


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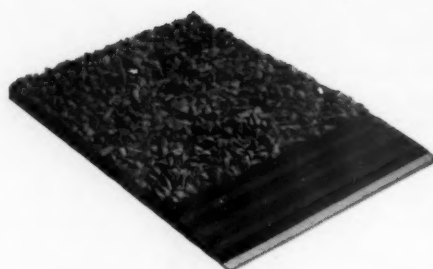
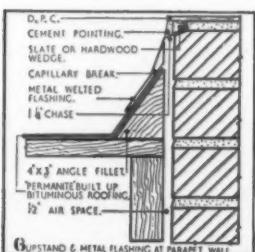
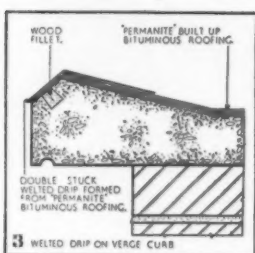
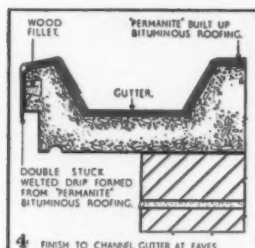
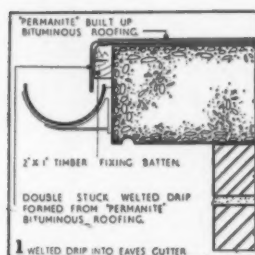
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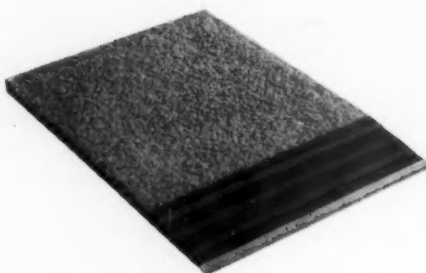
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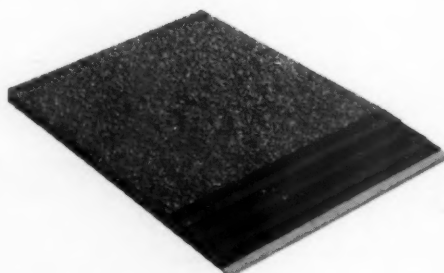
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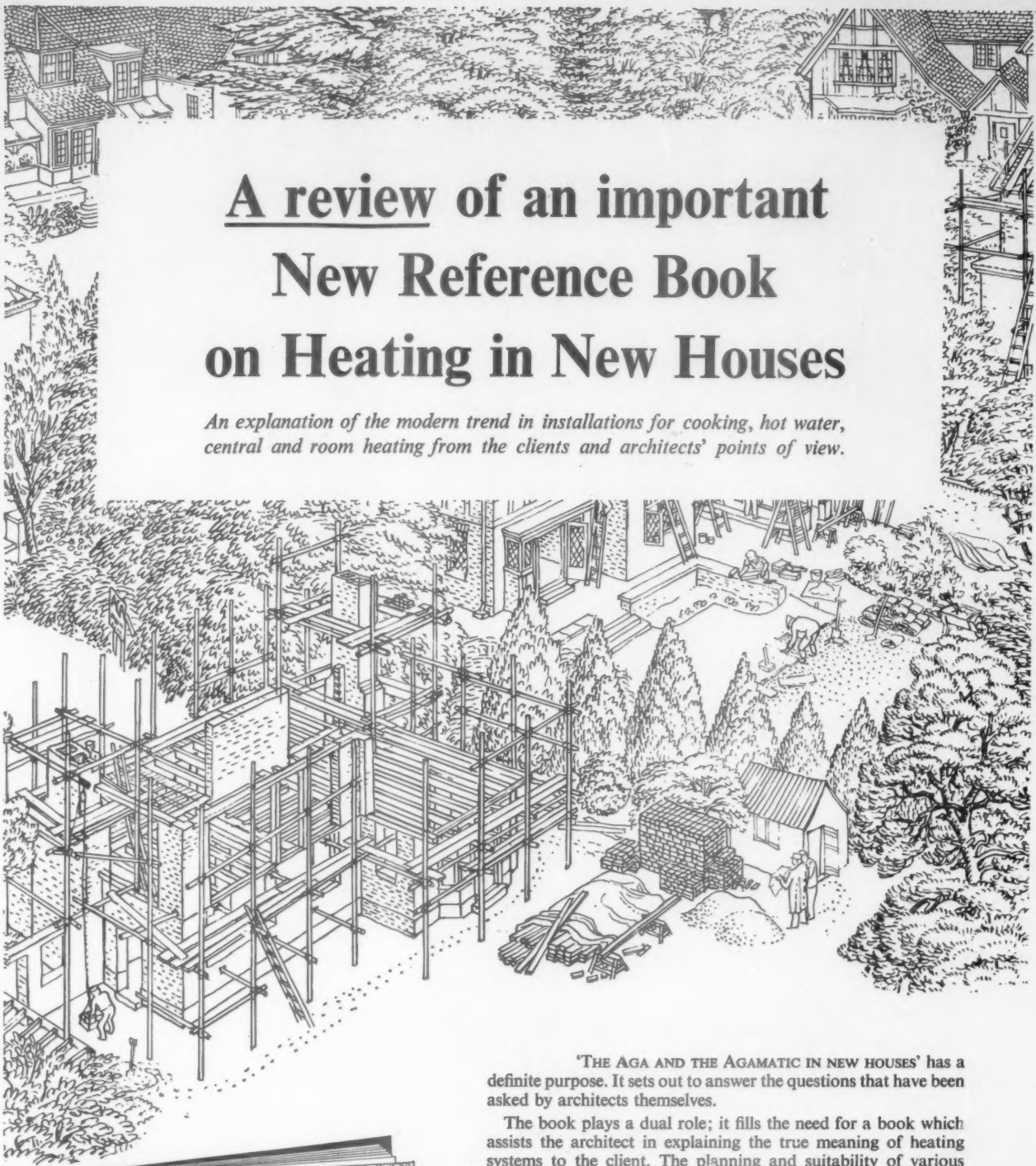
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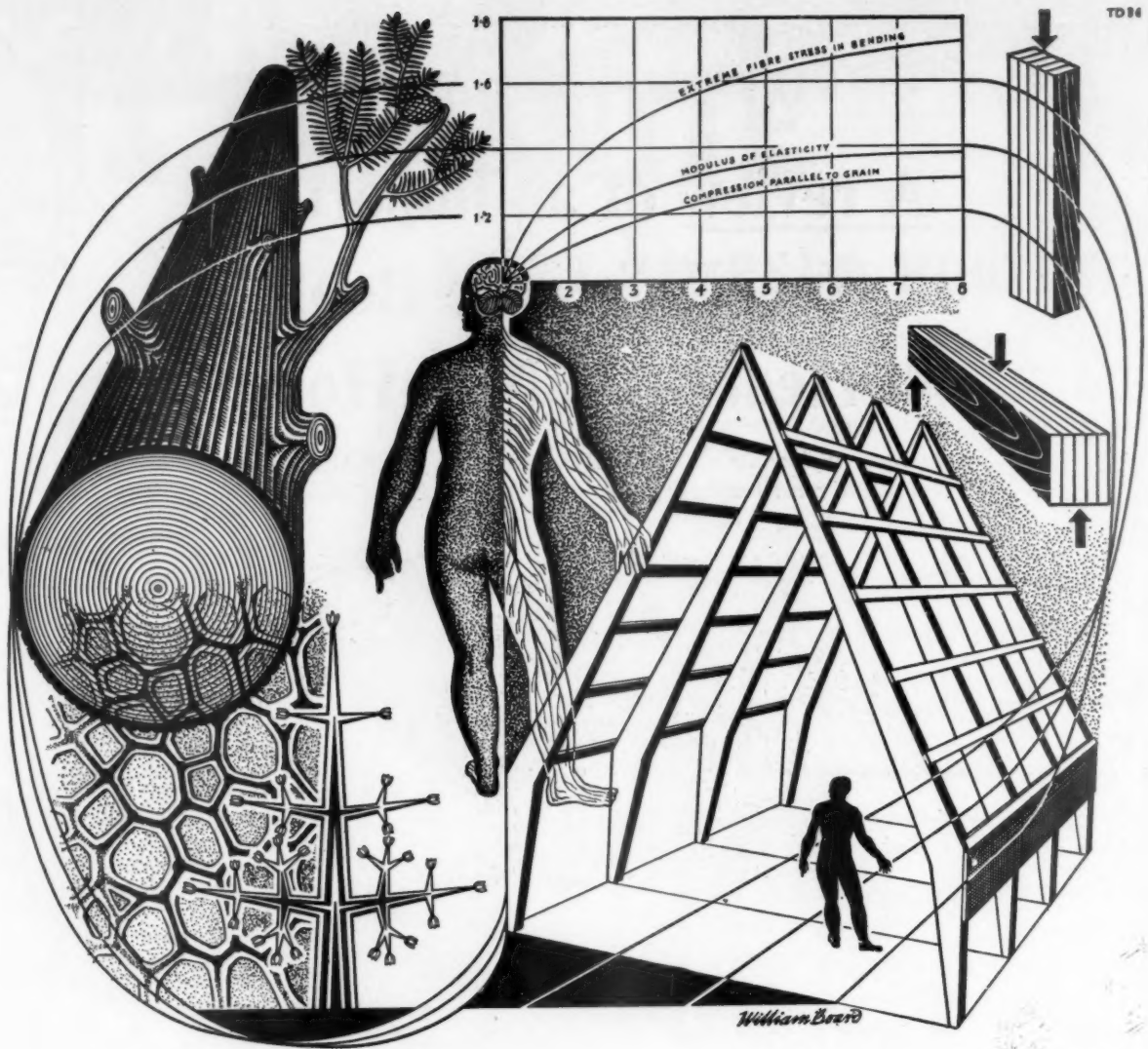


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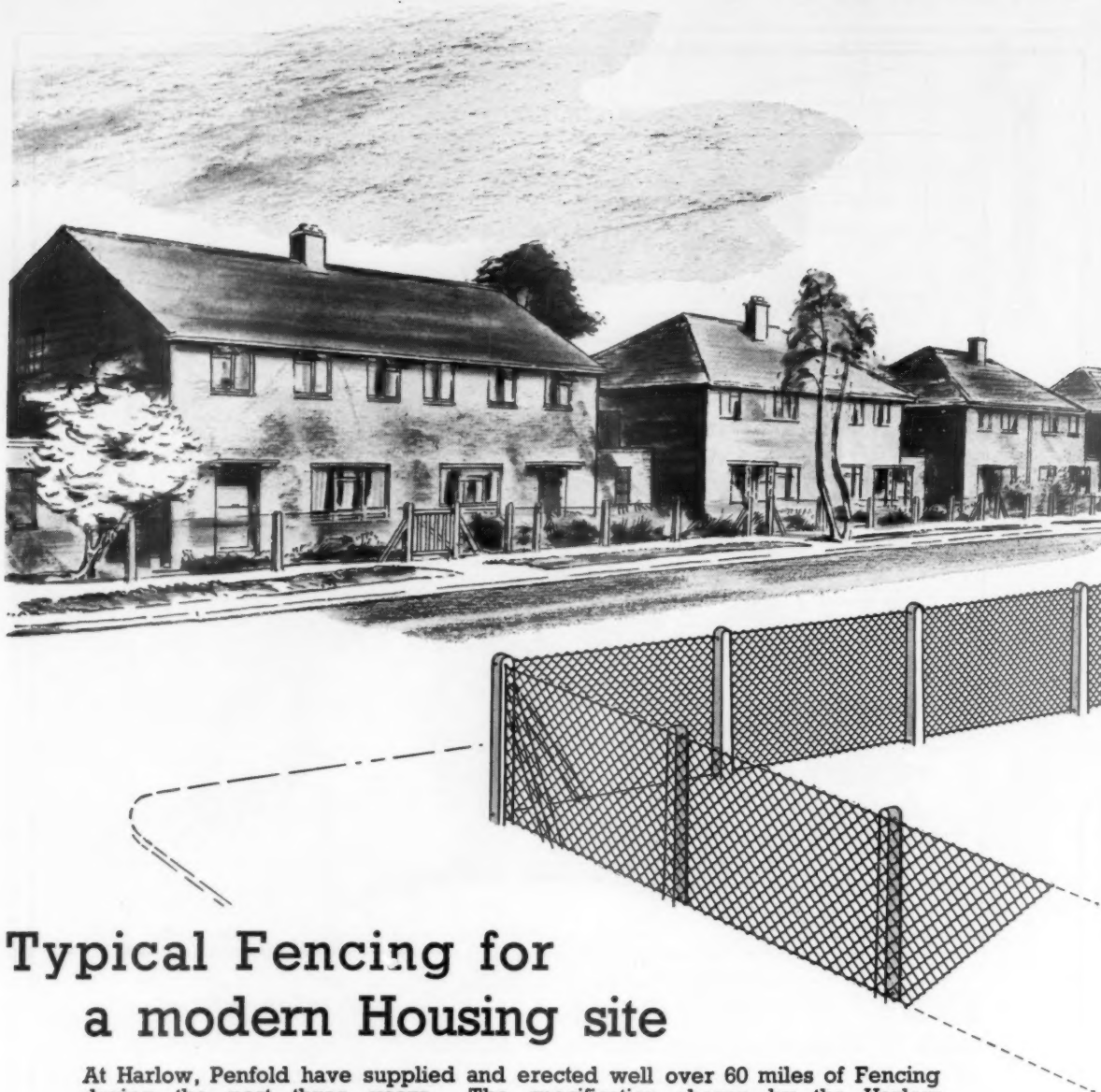


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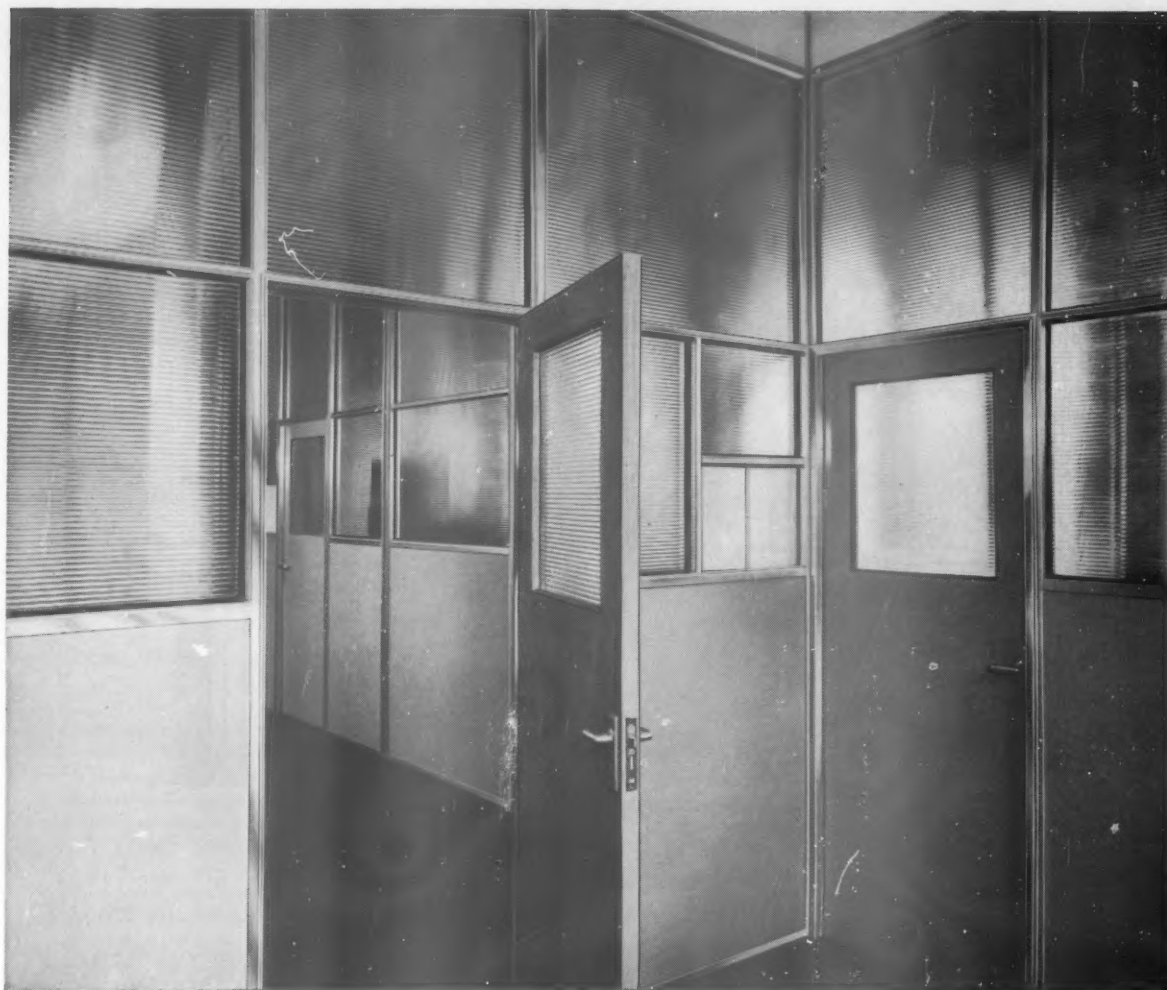
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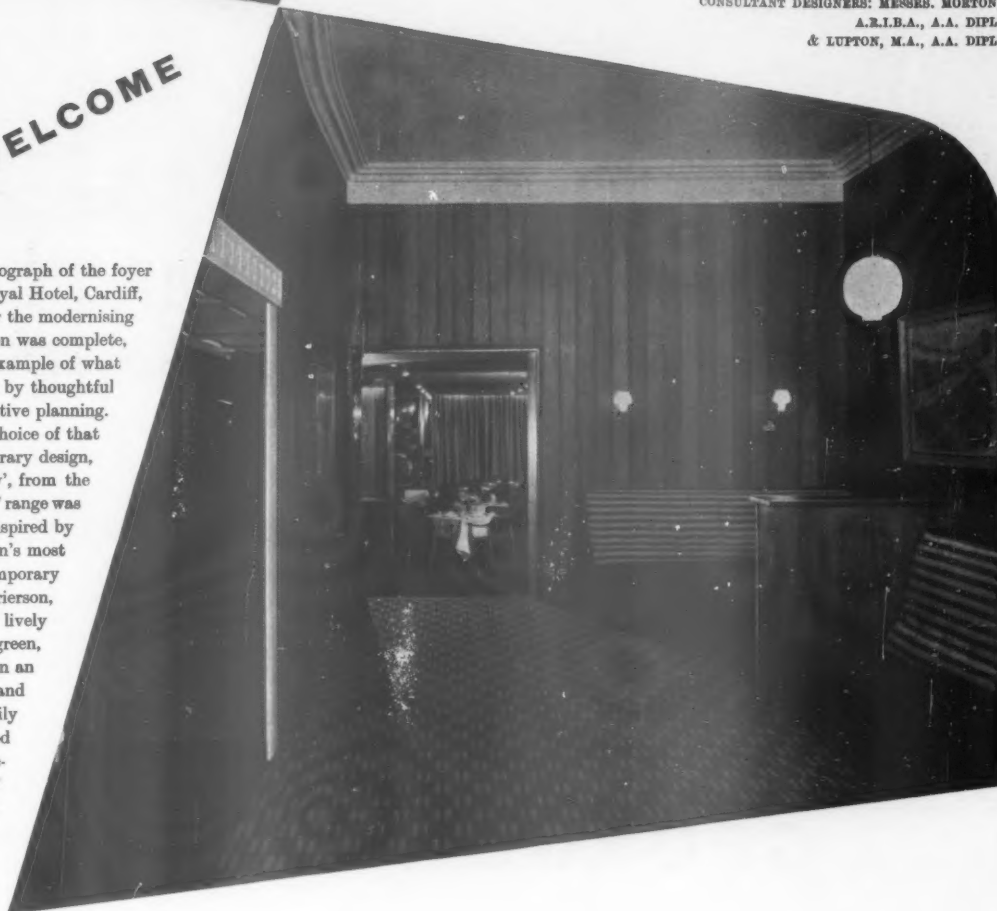


TRANSFORMATION

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WELCOME

This photograph of the foyer at the Royal Hotel, Cardiff, taken after the modernising transformation was complete, is a striking example of what can be achieved by thoughtful and imaginative planning. Admittedly, the choice of that unusual contemporary design, 'Telegraphy', from the Stockwell 'Royalist' range was a happy one. Inspired by one of Britain's most brilliant contemporary designers, Ronald Grierson, M.S.I.A., it's in a lively pattern of lime green, black and white on an olive-green ground and mates most happily with the blonde wood panelling and blueberry 'Crusader' carpet that cleverly links foyer with the lounge beyond.



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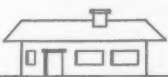

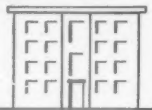
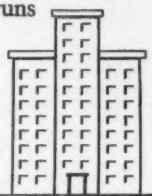
# Facts

A comparison  
of installation costs...  
between an Ascot  
plus open fire  
and open fire plus  
back boiler

An analysis of the actual costs of installing these two popular water heating systems shows that Ascot multipoint heaters are cheaper than back fire boilers in every case but one.

The figures in the chart were not specially prepared. They are from bills of quantities of schemes which had already been completed by an eminent architect before the analysis was contemplated. Examination of the plans shows that because the Ascots

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<b>ASCOT 709</b> Cost of Water Heater, Coke Grate, tile surround and curb—equipment and installation.	£63 · 9 · 10	£72 · 5 · 1	£67 · 11 · 11 (A)	£65 · 1 · 1 (B)
<b>ASCOT 715</b> Cost of Balanced Flue Water Heater with air box and flue ducting, Coke Grate, tile surround and curb—equipment and installation.	£74 · 7 · 4	£83 · 1 · 4	£78 · 9 · 5 (A)	£75 · 16 · 1 (B)
<b>BACK FIRE BOILER</b> Cost of Back Fire Boiler, Coke Grate, tile surround and curb—equipment and installation.	£73 · 15 · 4	£87 · 19 · 5	£72 · 4 · 9	£101 · 5 · 8
<b>BACK FIRE BOILER</b> Cost of Back Fire Boiler, Coke Grate, tile surround and curb, electric immersion heater and lagging of pipes and cylinder—equipment and installation.	£97 · 19 · 3	£118 · 11 · 10	£114 · 18 · 2	£140 · 10 · 9

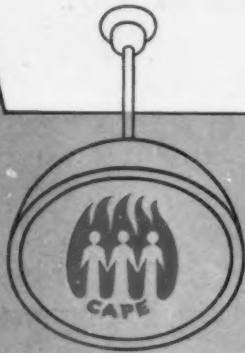


*Cost of (A) is higher than (B) due to longer pipe runs.*

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Data Sheet A.S.2 gives fixing and other details for steel framed multi-storey buildings where distances between beams necessitate subsidiary grids for panel suspension. Data Sheet A.S.3 is related to a 40-inch planning module. Write for your copies.



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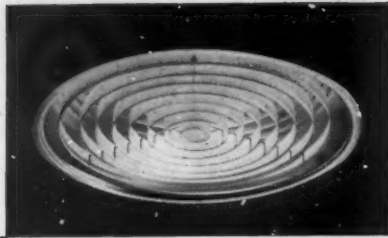
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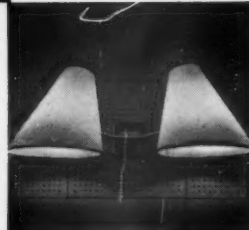
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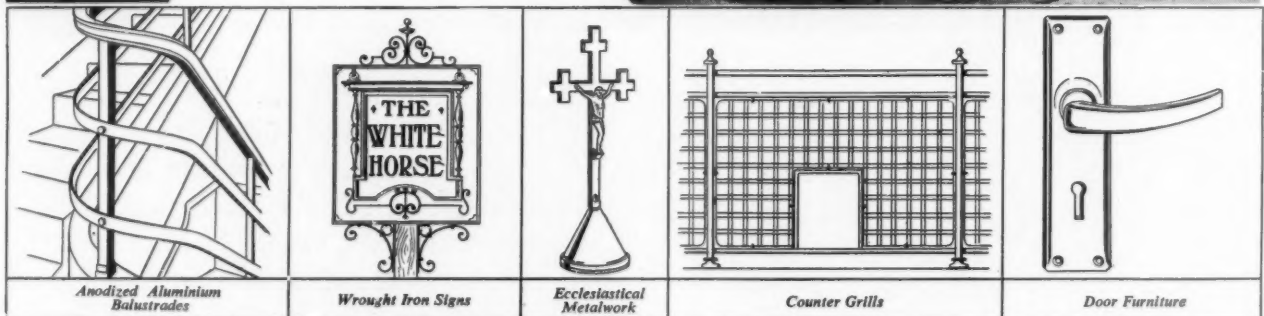
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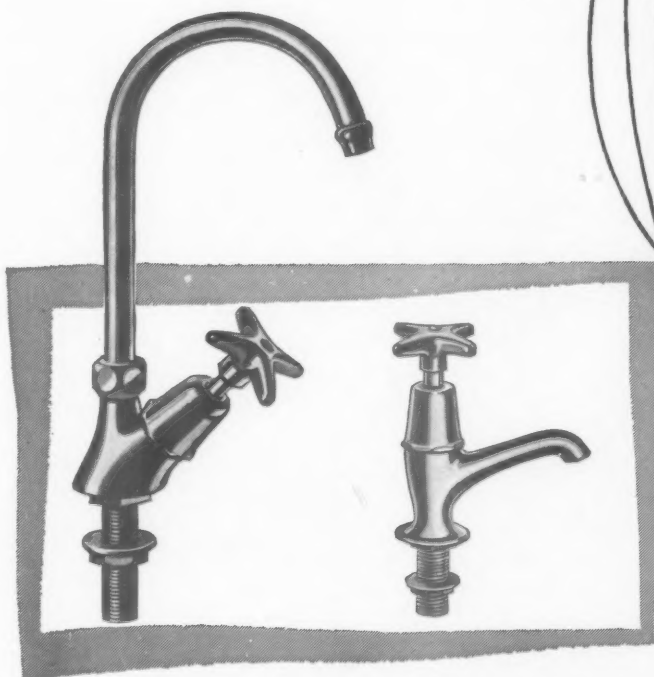
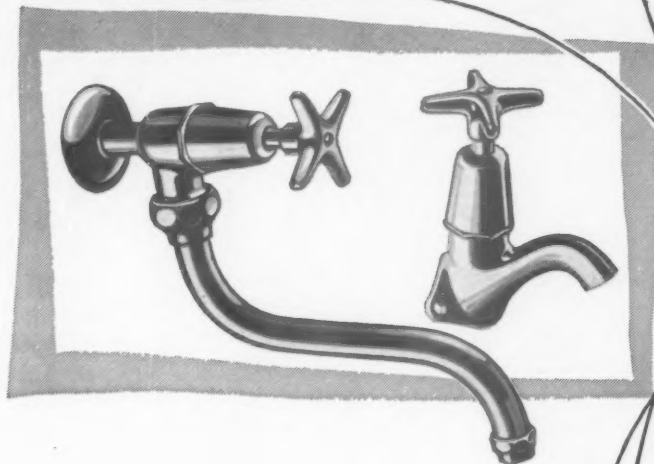


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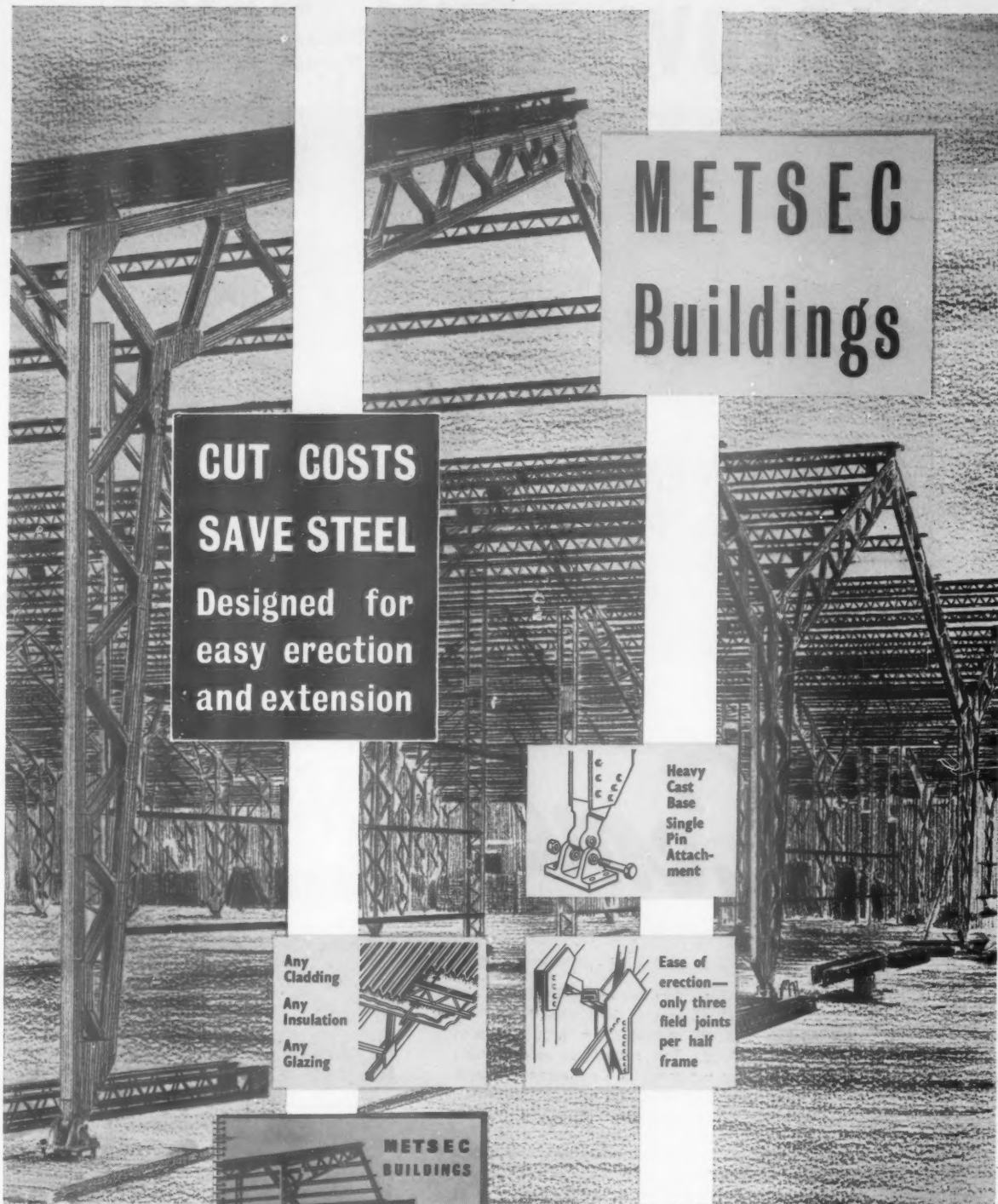
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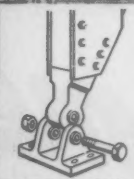
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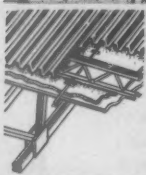
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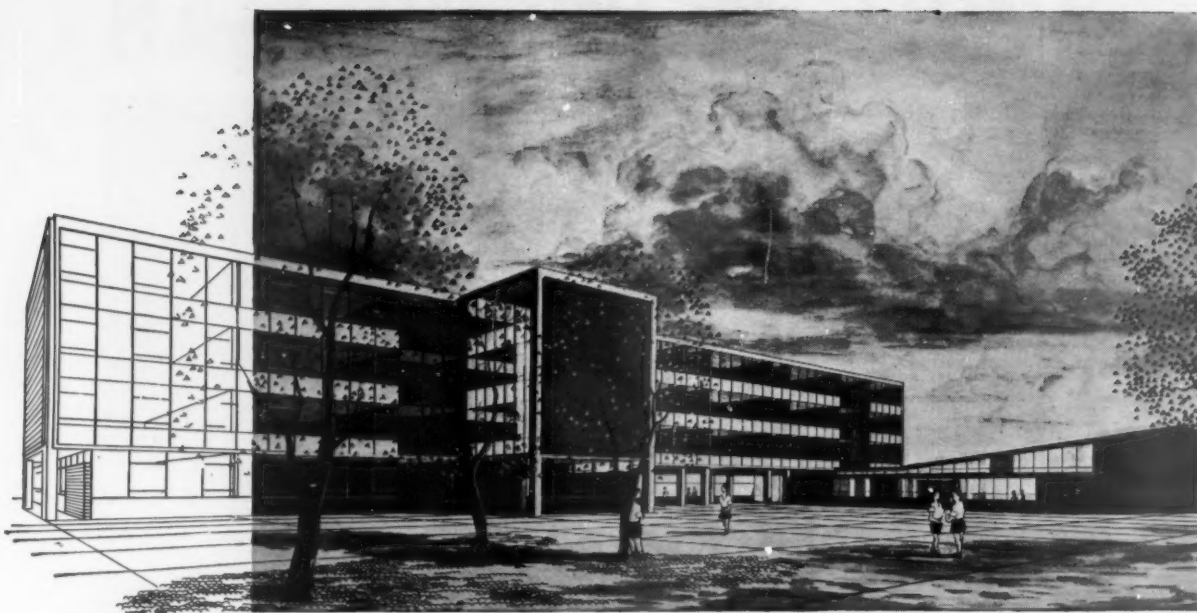
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This photograph (by courtesy of Maple & Co., Ltd.) shows the Bed Headboard, Tub Chair, Writing Chair, Wardrobe Door and small Pedestal Cupboard all finished in Vaumol Hide. Colours vary with the decor of the room, but are mainly beige, pink-beige and green.

Architect for the Westbury Hotel:  
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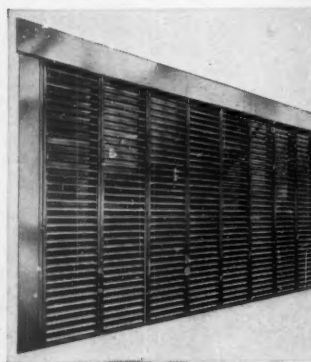




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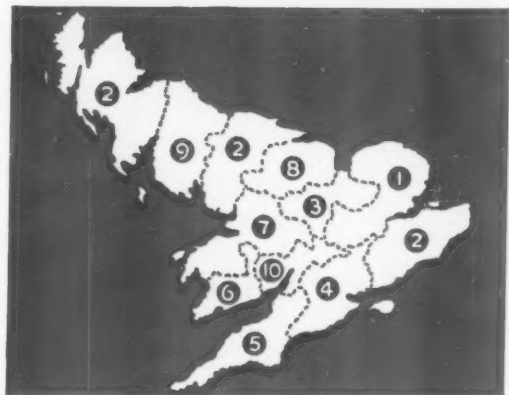
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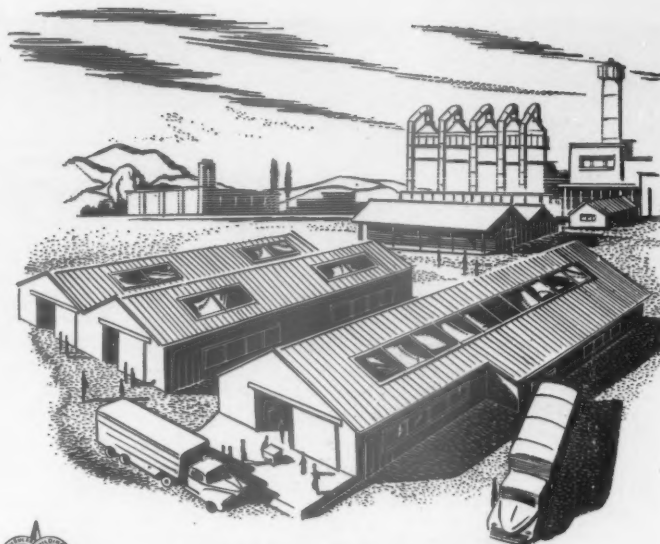
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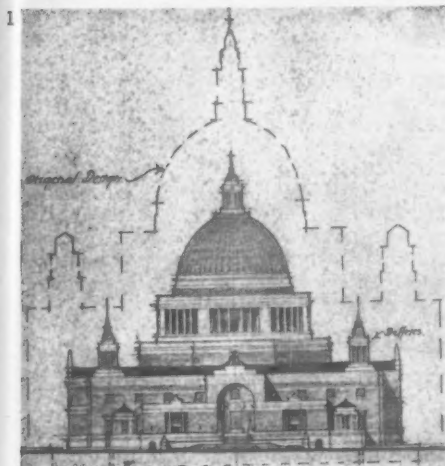
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## MARGINALIA

### Liverpool Cathedral

Proposals for reducing the bulk of the Roman Catholic Cathedral in Liverpool to more realistic dimensions were announced late in February. The new scheme, prepared by Adrian Gilbert Scott, would telescope Sir Edwin Lutyens's original design by about one-third vertically, and calls for some contraction of its plan-wise spread as well, 1.



Nevertheless, these changes would still leave the central crossing capped by a bigger dome than those of the Pantheon, St. Peter's or St. Paul's,\* the main bulk about the same as that of St. Peter's, and the total structure still among the largest buildings for Christian worship in the world.

But this seems to be all that can be said for



the revised design. The dropping of the dome leaves it looking like a lost *tempietto* on an over-wide podium, 2. The proportions of the whole have been altered in such a way that the conspicuously 'architectural' qualities of Lutyens's design are destroyed and the retention of his carefully scaled elements of composition and detailing on the cut-down version seems no more than a piece of insensitive archæologizing. There can be little cause to wonder at the scheme's hostile reception: if it is accepted Catholics will have lost a great temple, the city of Liverpool a skymark, and the reputation of Lutyens what would have been one of its greatest supports. Protest from all quarters, however, has been so vigorous and so prompt that the whole project may well be reconsidered.

\* See p. 344 for the relative dimensions of these buildings.

### Aujourd'hui

Any new periodical from the Rue Bartholdi is bound to excite the interest of architects, and the latest addition to Andre Bloc's line of magazines takes its place alongside *Architecture d'Aujourd'hui* and *Art d'Aujourd'hui* under the simpler but more general title of plain *Aujourd'hui*, with the exciting promise of being better than its elders by virtue of embracing both their fields and that of product design as well. Its programme as set out in the advance publicity is to take account of all branches of human activity from the point of view of *la plasticité*, and to grapple with the problem of supervision of all other techniques by that superior technique—*la beauté*.

This programme—so French in its submission to high level abstractions and its acceptance of an academic hierarchy of disciplines headed by pure design—sounds alarmingly like a deliberate return to the absolutist aesthetics of the early twenties, but the first issue of the magazine, now that it has appeared, is so full of cheerful self-contradictions that this threat is hardly fulfilled. Thus, a well illustrated and entirely approving article on Ben Nicholson is followed by a frontal assault on the reputation of the late André Derain, whose academic formalism surely gives him an honoured place among the forefathers of abstract; and further on one finds four pages of practical businesslike aeroplanes followed by two pages of impractical, frivolous and arty automobiles, all discussed in the same—high-flown and starry-eyed language—which is capable of such factual inaccuracies as to suggest that if beauty is served the other techniques can go and get lost.

But the treatment of architecture and furnishing is excellent. Here, in the fields where Bloc and his associates have always moved most freely, *Aujourd'hui* will clearly speak with authority. The reportage of new building—mostly South American—is up to the best Rue Bartholdi standards, and the treatment of the late *Triennale di Milano* (the perfect opportunity for this magazine to demonstrate its powers of synthesis between the different techniques) is as full and as thorough as one is ever likely to find between two covers. Copies are 900 Frs. each, annual subscription (6 copies) 4,500 Frs.

### Miss Evie Hone

The death, on March 13, of Miss Evie Hone, has deprived the applied arts in England of a figure who was almost unique in that, though she was best known as a glass-painter, she was not descended from the Gothic Revival tradition of the Art-Workers Guild and similar organizations. Her roots as an artist were struck in the school of Paris, where she studied under Albert Gleizes and André Lhote, through either of whom she would have been in touch with that revival of interest in the craft of the *artiste-verrier*, which had grown up, within the modern movement, among the friends of Gauguin. Much has been made of the fact that she was a descendant of Galyon Hone, glass-painter to Henry VI, but this is not much more relevant than the fact that she was the first significant practitioner of abstract art in Ireland since the illuminator

of the Book of Kells. Her work in stained glass, however, is predominantly figurative—as one would expect in a pupil of Lhote—and, apart from work in her native Ireland, she is best known for her work at Farm Street, and for her grandest and most brilliant



performance, the new East window, above, in Eton College Chapel, replacing the bomb-damaged Victorian work.

### Architects in this issue



Architects of Ontario Architects' Association Headquarters Building (see pages 302-306). John B. Parkin Associates of Toronto, Ontario, left to right: Dr. P. T. Mickluchin (structures), Edmund T. Parkin (construction), John E. Owen (architect, hospitals), Edward R. Wilbee (industrial engineering), J. C. Parkin (design), John B. Parkin (administration), R. V. B. Burgoyne (architect, schools), J. Ewart Mews (mechanical engineering) and John G. Spence (architect, working drawings). A typical large transatlantic office, with a total staff of about 120 assistants, and a finely graded system of specialization and division of labour, the John B. Parkin Associates are one of the best-known offices in Ontario, and indeed in Canada. As the specialized qualifications of the associates would suggest, hospitals, schools and factories form the greater part of their output, and in these fields they gained one gold and three silver medals among the 1952 Massey Awards in Architecture, and a diploma of honour at the 1952 Olympiad. An adaptability of approach is shown by the fact that a silver medal for a church was also among the Associates' large haul of Massey Awards, while the prize and commission for the OAA headquarters shows that this adaptability persists.

Architects of interior, Royal Hotel, Cardiff (see pages 345-347). John Morton, born 1919. Trained in AA after the war. Chief assistant to R. Y. Goodden and R. D. Russell on the



building of the Lion and Unicorn Pavilion in the South Bank Exhibition. Since 1951 has worked with Tom Lupton on the establishment of a furniture factory, and is now employed as designer to the company. Married to a Danish interior designer with whom he won an award in the *News Chronicle* house design competition in 1953. Has one daughter aged three. Lives in a new house which he and his wife are building themselves in an old walled garden in the middle of Wallingford. Is a member of the Borough Council of Wallingford. Works in occasional collaboration with Tom Lupton, born 1920, who trained in Cambridge and the AA. He also worked on the Lion and Unicorn job in the Goodden and Russell office. In 1952 he resigned his membership of the RIBA in order to become the director of the new furniture company. Is married and has two children. His new house is now being built in Wallingford. Plays the violin in an orchestra; his wife plays the oboe.

## CORRESPONDENCE

G. F. Watts

To the Editors,

### THE ARCHITECTURAL REVIEW

SIRS,—Watts' place in history was not his fault, but a fault in him. His nineteenth century critics used to say he was born too late; your critic precisely reverses this suggestion. I do not know that there is much point in playing this game with history, but I should favour the former idea, which is also Mr. Loshak's.

Your critic writes that, 'He (i.e., Watts) was a failure on a vast scale and deserves to be treated as such.' I cannot allow that Watts should be praised or merely found interesting for his failures. He was both vain and modest to a fault. Nor should your critic hoist the artist with the petard of the painter's own modesty. Watts' disclaimer is misinterpreted by your critic. 'My attempts,' Watts said, 'at giving utterance and form to my ideas are like the designs of a child who was once asked by his little sister to draw God, and made a number of circular scribbles . . . and stuck his pencil through the centre, making a great void.' This may be 'the sign language of modern painting,' as your critic suggests, and as I pointed out years ago. It may be good enough for little sisters and for your critic, but, after all, great voids and little holes come to much the same thing, and as works of art they are frankly nonsense, and that, of course, is what Watts meant. What the painter thought a weakness, your critic mistakes for a modern virtue.

Yours, etc.,

R. W. ALSTON,

Guildford.

Curator, Watts Gallery.

[Robert Melville writes: *I think Mr. Alston's hatred of modern art is at the bottom of this controversy. If Mr. Loshak favours the notion that Watts was born too late, why does he claim that the range of Watts includes kinship with Boccioni and Kandinsky? I do not expect Mr. Alston to understand the largeness of this claim, and unfortunately it is in any case quite untenable, as I pointed out in my review of the exhibition. There is no evidence whatsoever in the work itself that Watts had a pre-cognition of the modern idiom. But this 'stranded whale,' gasping in the Victorian shallows, had something to say about the child's drawing that deserves to be protected from the interpretation put upon it by his friends. He does not envy what the child has actually set down, but finds in it a hazy*

*presentiment of a more subtle language for the presentation of his 'cosmic' vision than the cliché-ridden symbolism that he strove so fruitlessly to bring to life. His remark is an admission of failure, but humility is not its most vital attribute, and his final sentence provides the key: 'This was utterly absurd as a picture,' he wrote, 'but there was a greater idea in it than in Michael Angelo's old man with a long beard.' Those are the words of a man who was turning away from the past with something like horror, and facing towards an inaccessible future.]*

### City Replanning

To the Editors,

#### THE ARCHITECTURAL REVIEW

SIRS,—With reference to your publication of my scheme for the area between Bread Street and St. Mary-le-Bow (A.R. March pp. 202-203). I would like to comment that I found the City Planning Officer and his staff extremely co-operative and receptive to my ideas, even though they differed from their preconceived notions as to how the site should be developed and am forced to the conclusion that too passive an attitude may have been adopted by the Architects concerned in some of the City redevelopment.

Yours, etc.,

London.

FRANK SCARLETT.

### The Champion

To the Editors,

#### THE ARCHITECTURAL REVIEW

SIRS,—There is one thing lacking in the illustrations of the Champion Pub in the last two issues of the REVIEW. The pictures look very pretty in a smart way, but where are the customers? Surely the architects have designed Typical Customers in the palmy Victorian style they have employed on the other details—cads, sporting a flash, taken direct from Phil May; and pale feathered ladies with a gay laugh and TB cough—for the incursion of present-day characters would certainly ruin pictorially all their carefully contrived effects. My point is that this sort of fancy-dress design is out of place, unnecessary, unrelated to current life; and, for all its pretences, lacking both in style and vigour: no excesses of reference-library intellectualism, however fashionable, can bring a live art to the living.

Is there any satisfactory answer to the question why an imitation Victorian background should be good, and an imitation Tudor one bad? Why not have a few imitation Elizabethan pubs done by the best architects? After all, the Elizabethans were not inferior trencher-men to the Victorians, and could equally well be imagined to be an inspiration to the poor-appetited moderns.

The new face of the Champion has all the characteristics which bedevil the arts in this country to-day: a slavish shuffling of clichés, a passion for styles at the expense of style, a ponderous heavy-handedness of statement and scrupulous avoidance of the unexpected. Far from hoping, with the REVIEW, that this may be the 'first example of the creative refitting of an existing pub,' let us pray it will be the last. You cannot pre-fabricate a pub atmosphere. That is something organic which can only come slowly from the personalities of publican and regulars. I am all in favour of brightening up pub interiors, but suggest that refresher courses in bric-a-brac collecting for publicans might have better results than mock Victorianism.

Apart from deploring the idiom which has been used at the Champion, I wonder what persuaded the designers to build up that appalling weight of barrels, bottles and so on on the light canopy over the bar? One assumes that all these containers are empty, but, even so, the implied weight is such that any timid drinker (and aren't we all nowadays) must be discouraged lest the whole lot come crashing down upon him, crushing him

with the maidenhair ferns and old beerpuffs.

One thing only I am grateful for. This must be the only modern interior that does not include an india-rubber plant.

Yours, etc.,

ALAN SMITH.

[John and Sylvia Reid, architects of 'The Champion,' write: *Whilst we are most grateful for the interest shown by Mr. Smith, we think that an actual visit to The Champion would convince him, far better than we can, that most of what he says does not accord with the facts.*

*It is unfortunate that photographs could not be taken when the pub was open, for it is the people that complete the picture. 'Present-day characters contrary to Mr. Smith's expectations, contribute far more than any that he or we could hope to design.*

*Why a Victorian background?—the building is basically Victorian and its owners had saved some valuable examples of Victorian craftsmanship for which they wanted a permanent home. The Victorian work is therefore 'genuine Victorian' and as for the rest, whatever else it may be it is certainly not 'mock' or 'revival' Victorian. A 'restoration' was never a part of our intention.*

*Mr. Smith is mistaken if he believes that 'you cannot prefabricate a pub atmosphere' (or any other atmosphere for that matter) because such a 'prefabrication' was the whole object of the exercise and surely the still widening circle of its regulars is proof enough?*

*The display of barrels, etc., is intended to give the illusory, but nonetheless comforting feeling that supplies are plentiful, and London drinkers must be less timid than Mr. Smith for none have yet displayed a fear of sudden annihilation.]*

## ACKNOWLEDGMENTS

MARGINALIA, page 291: Eton Window: Kemsley Picture Service; John B. Parkin Associates; Panda. FRONTIS, Gordon Cullen. SANT' ELIA, pages 295-301: drawings from Museo Civico, Como; photo: Banham, Arphot. ONTARIO ASSOCIATION OF ARCHITECTS BUILDING, pages 302-206: Nos. 1, 2, 3, 4, 8, Ben Schnall; Nos. 9, 10, 11, 12, 13, Panda. HILL HALL, pages 307-309: HM Stationery Office; two drawings: A. C. Cooper; 3, HM Stationery Office; 4, A. F. Blunt. HARLOW NEW TOWN, pages 310-329: page 313: Photoflight, John Maltby. Nos. 2, 3, 5, 11, 12, 13, 15, 21, 20, 30, 32, 37, 38, 45, 46, 47, 48, 49, Galwey, Arphot. No. 3 (page 313), John Maltby. Nos. 4, 6, 7, 10, 14, 17, 18, 19, 27, 28, 31, 33, 39, 41, 44, Wainwright. No. 20, Photoflight. Nos. 22, 23, Henry Lewes. Nos. 24, 25, 26, John McCann. Nos. 8, 9, H. T. Cadbury-Brown. No. 42, Sound Stills Ltd. No. 35, Alfred Cracknell. No. 36, Peter Pitt. RESERVOIRS, pages 330-335: Frontis: K. G. Browne. Nos. 1 and 10, Crown Copyright. Nos. 2, 3, 4, 5, 6, 8, 12, 13, 16, 17, 18, 21, 22, K. G. Browne, Arphot. No. 11 supplied by Christopher Tunnard. Nos. 14, 15, 23, 24, Sylvia Crowe. No. 20, Toomey, Arphot. CURRENT ARCHITECTURE, pages 336-338: Hotel in Bond Street: Public Relations Associates. House at Chorley Wood, Herts: John R. Pantlin. MISCELLANY, pages 339-344. Criticism: Nos. 1, 2, 3, 4, 6, 7, 8, 9, John R. Pantlin. No. 5, Sydney W. Newbery. Exhibitions: No. 1, Capt. D. Malcolm; No. 2, B. Buffet; No. 3, Maywald; No. 5, Cauvin. SKILL, pages 345-358: Nos. 1, 2, 3, 5, 6, 11, 12, Hylton Warner. Nos. 4, 7, 8, 9, 10, Galwey, Arphot. Designers in the Making: Nos. 1, 8, 14, 15, 16, 17, 18, 31, 37, 40, 41, 42, 43, 44, 46, 48, 49, Toomey, Arphot; Nos. 2, 3, 4, 5, 9, 10, 11, 12, 13, 19, 20, 21, 22, RCA; No. 6, Topical Press Agency; No. 7, Wainwright; Nos. 34, 36, COID; No. 35, Alfred Lammer; Nos. 45, 50, Leonard Hill; No. 47, Harold King.



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# THE ARCHITECTURAL REVIEW

Volume 117 Number 701 May 1955



This month's cover shows, in plan and in photograph, the Stow—the shopping and social centre which serves a cluster of newly completed neighbourhoods in Harlow New Town. With its feeling of enclosure and positive topographical character, both deriving largely from the form of its plan; its sense of animation and population, due to its combination of pedestrian security with reasonable vehicular circulation; and its feeling for variety of architectural aspect, the Stow is perhaps the most successful work of permanent Townscape planning that has been executed since the war. It is described and illustrated, along with other features of the Harlow neighbourhoods which it serves, on pp. 310-329.

291 Marginalia

292 Correspondence

294 Frontispiece

295 *Sant'Elia by Reyner Banham* Although there is a fair body of literature about him, Antonio Sant'Elia, the Futurist architect, is one of the least understood pioneers of the modern movement. Since no known buildings from his hand survive, the evidence for his ideas and achievements lies in his writings and in his surviving sketches. After summarizing the contents of Sant'Elia's Manifesto of Futurist Architecture, and placing it in its proper relationship to other Futurist writings of 1914, Mr. Banham turns to the problem of the drawings, and particularly the large corpus now in Como that have not been published before. This unpublished material, he suggests, gives us a profounder view of a designer whose mental calibre has hitherto been under-estimated. Sant'Elia emerges as the possessor of a unique sense of plastic form, related both to sculpture and civil engineering, and this sense of form produces, in sketches for industrial buildings, solutions which are so

prophetic of the architecture of the 'twenties and 'thirties, that, when the three-dimensional quality of his town-planning is also considered, he is assured of a place in the family tree of the Modern Movement.

302 *Architects' Building, Ontario: Architects, John B. Parkin Associates*

307 *Hill Hall by Nikolaus Pevsner* If an Elizabethan dating for the courtyard of Hill Hall, Essex, can be accepted (and Professor Pevsner begins by assembling the evidence for such a date) then the building occupies a key place in the introduction of columnar architecture to this country, and the problem of the sources of the wide set columns of the courtyard, their flat entablature and their squat proportions is an important one historically. Sir Thomas Smith, its builder, was connected with the Cecils, and travelled extensively in France, both as scholar and statesman, so a French source for Hill Hall is more than probable. Much of Hill Hall must have come, specifically, from French Vitruvian sources—for Smith's library catalogue contained five editions of Vitruvius, one certainly French, and another almost certainly Philander's—yet the essential conception of widely-spaced, superimposed orders is not in the books, and the most likely source is the courtyard of Bournazel, near Toulouse, which would have been completed in time for Smith to see it when he was in the south of France in the fifteen-thirties. As a postscript, Professor Pevsner draws attention to the more complex problem presented by the giant order of the exterior of Hill Hall.

310 *Harlow New Town by Frederick Gibberd* With twenty thousand persons housed, work on Harlow New Town has progressed so far that its architectural and townscape qualities can begin to be seen and appreciated. In the article which opens this special feature on Harlow, Frederick Gibberd, architect-planner to the New Town Corporation, describes the principles of planning and landscaping which have been developed for the first neighbourhoods to be completed: Mark Hall North, Mark Hall South and Nettiswell. He draws attention to the basic pattern of housing unit, neighbourhood and neighbourhood-cluster, which governs the location of social facilities, and to the pattern of built and unbuilt land which arises naturally from the topography of the new town site, from the needs of circulation, and from certain basic procedures in the disposition of services. These have all had their effect on the grouping of buildings and thus on the emerging townscape pattern, in which planting and

landscaping have also played their part. Mr. Gibberd's description is followed by a map, giving the route of a tour through the completed neighbourhoods, and by illustrated descriptions of thirteen selected buildings and building-types which have been erected there.

330 *Reservoirs by Sylvia Crowe and Kenneth Browne* Reservoirs are part of a growing programme of canalizing and controlling the water available in this country. They and the programme are obviously necessary, and their effect on the landscape could be visually magnificent, but in practice they often lead to geological changes, the disappearance of streams and waterfalls, their construction often involves drastic but not well-considered alterations of land-form, and their ancillary constructions—retaining banks, dams, spillways, sluices—are often ill-designed and inept in their settings. Worse still are the attempts to restore visual amenity by unconsidered planting of unsuitable trees. Still, examples do exist, in Britain and elsewhere, of reservoirs that do make a contribution to the beauty of the landscape, and the authors demonstrate with text and pictures how this is achieved, and how the common mistakes in the placing and treatment of large sheets of water can be avoided.

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THE ARCHITECTURAL REVIEW

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FIVE SHILLINGS





The Leofric Hotel in the rebuilt city centre of Coventry, is the first hotel since the war to be put up and equipped with British capital. It is therefore encouraging to see that the designers—W. S. Hattrell and Partners, working with the furnishing department of Ind, Coope and Allsop under Anthony Drew—have decided not to use Regency, or some other period style, but a straightforward contemporary idiom. This is exemplified in Gordon Cullen's impression, opposite , of the treatment of the stair that rises from the lower foyer to the upper one, with the silver grill beyond the glass doors at the higher level. The Leofric will be described and illustrated in full in a forthcoming issue.

**Reyner Banham**

## SANT' ELIA

The Modern Movement can have left behind few monuments as baffling as the memorial to the war dead of the town of Como. Seen from a steamer coming down the lake its white form—a truncated dipylon gripped between powerful canted buttresses—suggests the remains of some grandiose engineering project, such as a suspension bridge, abandoned before completion. Seen from the land, its stance astride the axis of the inevitable *Via Vittorio Veneto*, and its flanking hemicycles of cypresses, make its monumental intentions unmistakable. Yet it is quite free of the usual flabby symbols of Fascist military rhetoric; all is fine-drawn, stark and abstract. It is, as the red CTI guide-book of 1936 truly says, *una severa costruzione architettonica*.<sup>1</sup>

The red guide offers one other piece of information on the monument: that it was built by the *ing. e arch. Terragni, su disegni del caduto arch. Sant'Elia*. The architectural information in CTI guide-books is usually perceptive and well informed, but most students of modern architecture would find the monument so unlike what they know of the manner and intentions of the fallen architect Antonio Sant'Elia, that they would suspect that what they see is much less his work than that of the engineer and architect Giuseppe Terragni, fallen, in his turn, in another world war, some six years after the guide-book was written.

But how much do we really know of Antonio Sant'Elia, futurist and architect? A very well-read student of the Modern Movement, who used the resources of the RIBA and *Victoria and Albert* Libraries to the full, going on even when the catalogue had lost interest in the subject, would be acquainted with: a longish footnote in Dr. Pevsner's *Pioneers*; four paragraphs in *Space, Time and Architecture*; a collection of essays entitled *Dopo Sant'Elia*, which includes the text of the *Manifesto of Futurist Architecture*; two pages in P. M. Bardi's *Belvedere*; a dim little book by Alberto Sartoris, whose accidental importance, as we shall see, outweighs its patent demerits; two articles in *Casabella* in the early thirties, and one in *Architettura*; and six pages of involved and

<sup>1</sup> CTI guide, *Lombardia*, 1936 edn., sub *Como*.



high-flown exegesis of the Manifesto, in Zevi's *Storia*. This may seem quite a respectable literary memorial for a man who never built a building, but the entire body is bedevilled by an inescapable defect—it is based upon a very limited knowledge of the existing evidence about the architect. Most of the Italian material is also spoiled by jingo rhetoric before the last war, and political embarrassments after it. The student who has consulted all these books and periodicals will have seen no pictures of the Monument, and only ten of his drawings. Four of these, all skyscraper projects, are from the *Città Futurista* exhibition of 1914; one is a sheet of drawings dated 1913, which can be cut up to look much more numerous, and the rest, which appear only in the obscure second edition of Sartoris's book, come from another source altogether—and suggest, faintly but tantalizingly, unknown aspects of Sant'Elia's personality.<sup>2</sup>

<sup>2</sup> The Sant'Elia bibliography available to a student working in London is as follows: Pevsner, *Pioneers of the Modern Movement*, 1st edn., p. 223, note 8; Giedion, *Space, Time and Architecture*, 3rd edn., pp. 319–20, 442–3; *Dopo Sant'Elia*, essays by various hands (notably G. C. Argan), Milan, 1935, RIBA; P. M. Bardi (editor) *Bevi.d.e.*, Florence, 1933, RIBA; Alberto Sartoris, *L'Architetto Antonio Sant'Elia*, Milan, 1930, Courtauld Inst. and V & A, much altered and republished, with important illus., as *Sant'Elia e l'Architettura Futurista*, Rome, 1948–4, V & A; Casabella, 1933, no. 82, p. 2, and 1934, no. 90, p. 2, RIBA; *Architettura*, vol. X, p. 325, RIBA; Bruno Zevi, *Storia dell'Architettura Moderna*, Florence, 1950, pp. 224–31. This bibliography may not be all-inclusive, and the author would be glad to hear of other Sant'Elia literature in England.

The student who commanded this material would know Sant'Elia's views on architecture, as they appear in the Manifesto, but apart from the *Città Futurista* drawings, would have only the vaguest idea what those ideas were to look like in the round; he would know that his memory was honoured by Sartoris, Terragni and the Italian rationalist architects, but also by the apologists of Fascism; that he was born in 1888, and was thus younger than the great masters of the 'twenties, finally qualified in 1912, *summa cum laude*, joined the Futurists in the same year, and set up his own office in Milan, but had to waste his talents detailing other people's competition projects; and that he died, under conditions of almost too-conspicuous gallantry, in the fighting round Monfalcone, October 10, 1916. His last words, according to a well-nourished legend, were: 'To-night we sleep in Trieste, or in Paradise with the heroes.'

Essentially, this information is all that is needed to form a true estimate of Sant'Elia's historical position, and his contribution to the Modern Movement, but most of us would be hard put to interpret the evidence, or to know which saying illuminates which drawing, and *vice versa*. The basic obstacle is the fixed image we have in our minds of Futurism as a closed æsthetic system with a single aim, the praise and illustration of movement. But though studies of motion represent the great contribution of the Futurists to twentieth-century art, it should not be thought that the delight in speed, noise and machinery which gives rhetorical vigour to the Manifestos of 1909 and 1910 remained the sole object of the Manifestos even of 1912, still less of 1914. The situation was quite otherwise, and after the Milan group had fused with Soffici and the Florentine Cubists in 1912, the leading Futurists began to retrace their steps. Lesser figures like Balla and Russolo might continue to pursue and refine the theme of motion, but the founder of the movement, F. T. Marinetti, and its greatest exponent, Umberto Boccioni, were both on the way back to a static and

classicizing ideal, achieved by the latter, who died two months before Sant'Elia, in the form of an open and understanding imitation of Cézanne in the last two or three paintings he produced.

In the case of Marinetti the change is harder to see. One who is essentially a public figure and popular performer must inevitably repeat his accustomed verbal formulæ, and his earliest phraseology carries through by its own momentum into 1914. But the title of his most carefully worked out policy-manifesto, which appeared in March of that year—*Geometrical and Mechanical Splendour, and the New Sensibility of Number*<sup>3</sup>—though it promises a greater change than the text exhibits, clearly reveals the new tendency. Sant'Elia, who was not a foundation member of the group, but rather the *Beniamino della squadra*, took his style from the leaders, and everything which remains of his thought and work is marked by this transitional frame of mind, between motion and stasis, between empiricism and classicism, with the world of machinery and an aggravated sense of patriotism as the only stable elements to which a man might look for support.

The *Manifesto of Futurist Architecture* is almost exactly contemporary with that on *Geometrical and Mechanical Splendour*, and was certainly written very much under Marinetti's influence. It has never been translated into English—very little Futurist literature has—and though this is not the place to examine it in detail, its main drift must be known before Sant'Elia's drawings and projects can be understood.<sup>4</sup> It is arranged in the common Futurist form of a general prologue, analysing the present condition of the aspect of life due for Futurist attack, followed by sets of tabulated propositions about what should be done. In this case the prologue opens with the statement that there has been no architecture since 1800, but only a hotch-potch of decorative styles. 'So-called renovators of the art have simply added new

<sup>3</sup> The French text is in the V & A Library.

<sup>4</sup> The best and most reliable text is in the 1st edn. of Sartoris, op. cit. The author hopes to publish full and accurate English translations of this and other Futurist documents in due course.

variations to an old game, undisturbed by the complete revolution and mechanization of modern life, and our cities remain sunk in the squalor of the centuries, instead of answering the needs of to-day. Thus a great art is debased to an empty game of revivals, as if we, with our turbulent mechanized life, could live in buildings designed for the needs of five centuries since, and students are forced to copy the past, instead of studying the true needs of the contemporary city.

'The problem of Futurist architecture is not one of finding another style of detailing, but of starting afresh on sound foundations, using every resource of science, abandoning all that is heavy and antique. Architecture has been worn out by traditions, and must be remade by force. Precise structural calculation, the use of concrete and steel, exclude architecture in the classic sense. We no longer believe in the monumental, the heavy and static, and have enriched our sensibilities with a taste for lightness, transience and practicality. We must invent and remake the Futurist city like an immense assembly yard, dynamic in every part; the Futurist house like a giant machine, without painting or sculpture, enriched only by the innate beauty of its lines, extraordinarily brutal in its mechanical simplicity; and streets must be buried storeys deep below the buildings, served by escalators and high-speed conveyors.

'We must abolish decoration, and solve the problems of Futurist architecture by strokes of genius and the use of scientific techniques. Everything must be revolutionized: roofs cleared, cellars opened up, façades devalued, and attention transferred to the grouping of masses and disposition of planes on the broadest scale. An end to monumental commemorative architecture!'

The reader who has been hanging on to his hat in the gale of prophecy that blows through this remarkable document—he will have noted the anti-monumentalism twenty years before Mumford, the house/machine equation eight years before Le Corbusier, mechanistic brutalism nearly forty years before Hunstanton—has further buffets to follow in the tabulated propositions which make up the rest of the Manifesto.

Sant'Elia proclaims:

'(1) that futurist architecture consists of precise calculation, boldness and simplicity, concrete, steel, glass and lightweight materials

'(2) that it is not, for all that, merely an arid combination of practicality and utility, but remains an art . . .

'(3) that diagonal and elliptical lines are dynamic by their very nature and a thousand times more emotive than horizontals and verticals

'(4) that decoration as something stuck on to architecture is an absurdity

'(5) that just as the ancients drew the inspiration for their arts from the world of nature . . . so we should draw ours from the mechanized environment we have created

'(6) that architecture must be understood as the art of disposing the forms of a building according to finite and stable laws

'(7) that architecture must also be understood as the power to harmonize man and his environment

'(8) that an architecture such as this breeds no

permanence, no structural habits. We shall live longer than our houses, and every generation will have to make its own city.'

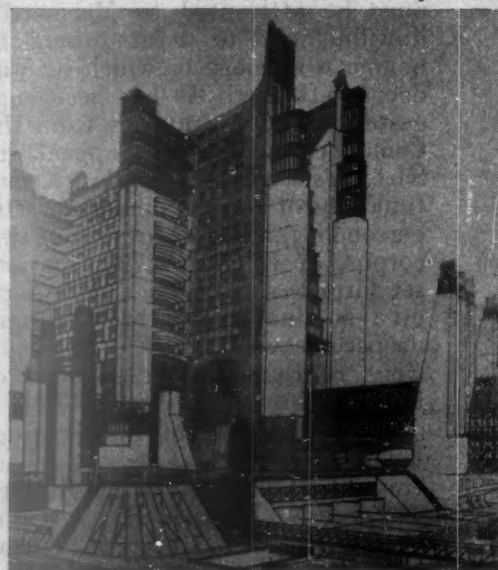
If these eight propositions reveal his sources—Adolf Loos, Boccioni, Marinetti and so forth—they also carry deeper the tone of prophecy. Not merely the short-term prophecies of the superficial æsthetic of the expressionists, as in §3, but also in the subtler and more durable prophecy of the essential philosophy of the International style, for §5 and §6 bring together, probably for the first time, the idea of mechanism and the idea of absolute æsthetic laws, the Machine Æsthetic. But we can go further than this: §2 rejects, as every great architect of the Twenties was to reject, the essentially Victorian concept of Functionalism, while §7 and §8 adumbrate a philosophy astonishingly close to that of Buckminster Fuller.

Yet to have prophesied the common intellectual currency of the Twenties is not enough to make him a Pioneer of the Modern Movement, any more than statements about beauty following function, uttered in the eighteen-fifties, can make Horatio Greenough a founding father of contemporary American architecture. To have bracketed together machinery and æsthetic law, or steel, concrete, daring and calculation, would only guarantee Sant'Elia an honoured place on the side-lines, like C. R. Mackintosh, who anticipated many of the forms of modern architecture, without arriving at its essential intellectual basis. What gives an architect his place in the family tree of the Modern Movement is the manner in which he gives plastic form to certain basic assumptions about architecture and mechanism—and in the absence of completed buildings, this brings us back to the question of Sant'Elia's drawings.

As has been mentioned above, the apparently extensive literary record of his life and work contains very few drawings, and the literature normally available to an English speaking student, only one, from the *Città Futurista* set, 1. Other drawings from this set have appeared in Italian publications, there is the single sheet which appeared in *Dopo Sant'Elia* and in *Belvedere*, and there are the other five which appeared in the second edition of Sartoris. This is precious little to have survived from an artist who according to Reggiori,<sup>5</sup> made hundreds, and died less than forty years ago.

However, when Sartoris issued the first edition of his book in 1930 it

<sup>5</sup> *Architettura*, loc. cit.



1, Sant'Elia's drawings for his *Città Futurista*—an imaginary town of high rise development and multi-level circulation—are the only part of his output that is at all well known





2, a sketch for a street in the Città Futurista.

suggest who this might be, for in the very full bibliography there is listed a *de luxe* edition of Marinetti's book on Sant'Elia di 13 copie con allegata una opera originale di Sant'Elia—though no example of this edition with original drawings bound into it seems to survive. Circumstantial confirmation of Marinetti's responsibility is offered by a corpus of ninety-four drawings, all but four of them unpublished (except those mentioned below) which were given to the *Museo Civico* in Como in 1945, by the architect's family it is said, yet within three or four months of the death of Marinetti at Bellagio, just up the lake.

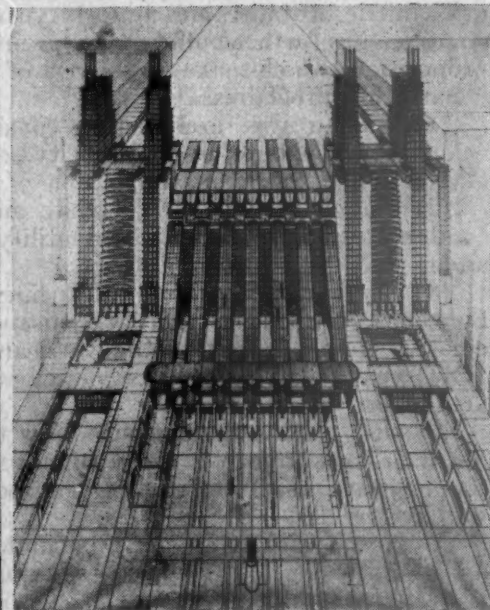
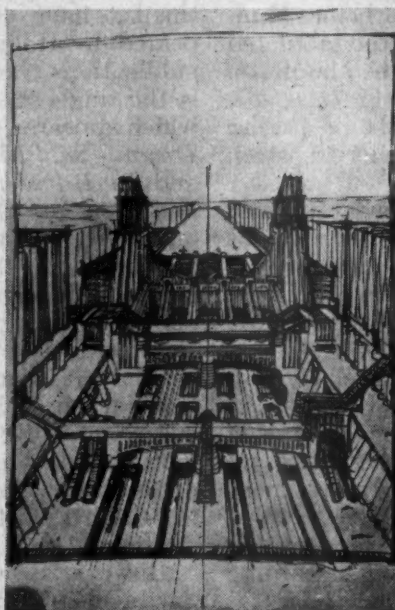
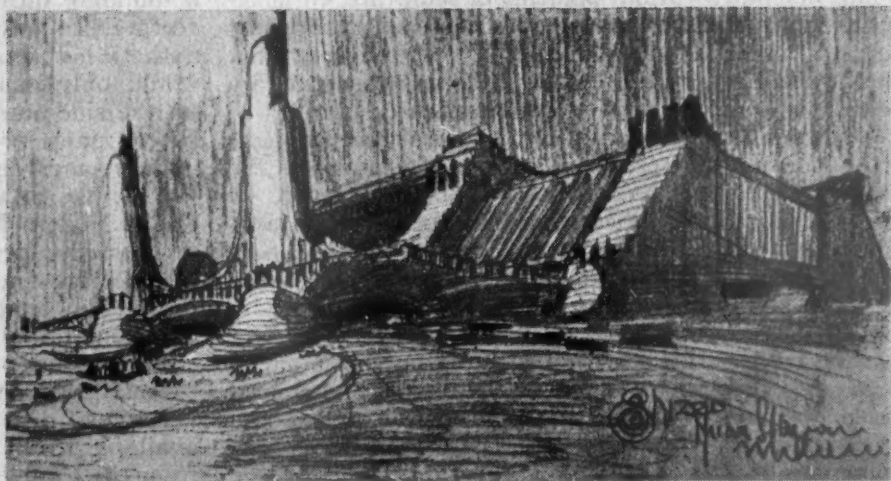
These drawings may have been out of Marinetti's control even before his death since some of them appear in Sartoris's second edition, dated somewhat uncertainly 1944, but even so it seems fairly certain that the paucity of published drawings must be attributed to Marinetti's unwillingness to trust others to honour a memory to which he was deeply attached. As has been suggested, the five drawings from the Como corpus which appear in Sartoris's second edition do give intimations of a more complex artistic personality, and the totality of this corpus,<sup>6</sup> of which the *Città Futurista* set form less than one-eighth part, give so immensely broader and deeper a view of Sant'Elia that revisions of the common estimate of his stature are clearly required.

About a dozen of the drawings belong to the *Città Futurista*, or are connected with it in some way, such as 2, with its Wellsian valley-section streets, graded for different classes of traffic, or 3 and 4, studies for

contained no drawings at all, and a rather huffy introduction by Carlo Ciucci explains that this is solely due to one who, though bound by the strongest moral ties to assist those who wished to honour the dead architect, had repeatedly put obstacles in the way of the publication of his sketches. The implication of this is clearly that the main corpus was already within one person's control, and there is internal evidence in the book to

the reconstruction of Milan Central Station which lead on to 5, the station for the *Città*. The exterior view, 8, looks as if it must have some part in the prehistory of Erich Mendelsohn, but 4, looking out over the tracks, certainly prefigures one of the characteristic dream-images of the urbanism of the twenties—the airstrip between skyscrapers of Le Corbusier's *Plan Voisin de Paris*.

The other eighty-odd sketches represent *terra incognita*. They do not exhibit much of the Viennese influence which has been suggested by some non-Italian writers, and this is hardly surprising in view of the Futurist loathing of Austria-Hungary. Yet, in spite of the outburst in the Manifesto against 'pseudo-Avant-garde architecture from Austria, Hungary, Germany and America,' there are unmistakable traces of International Art Nouveau in drawings such as the villa, 6, or the frequently redrawn project, 7, for a theatre. Yet here, framing the apparently cast-iron-gothic detailing of the central bay, one sees great stone buttresses of simple geometrical form which do show some affinity with the Monument. But, in



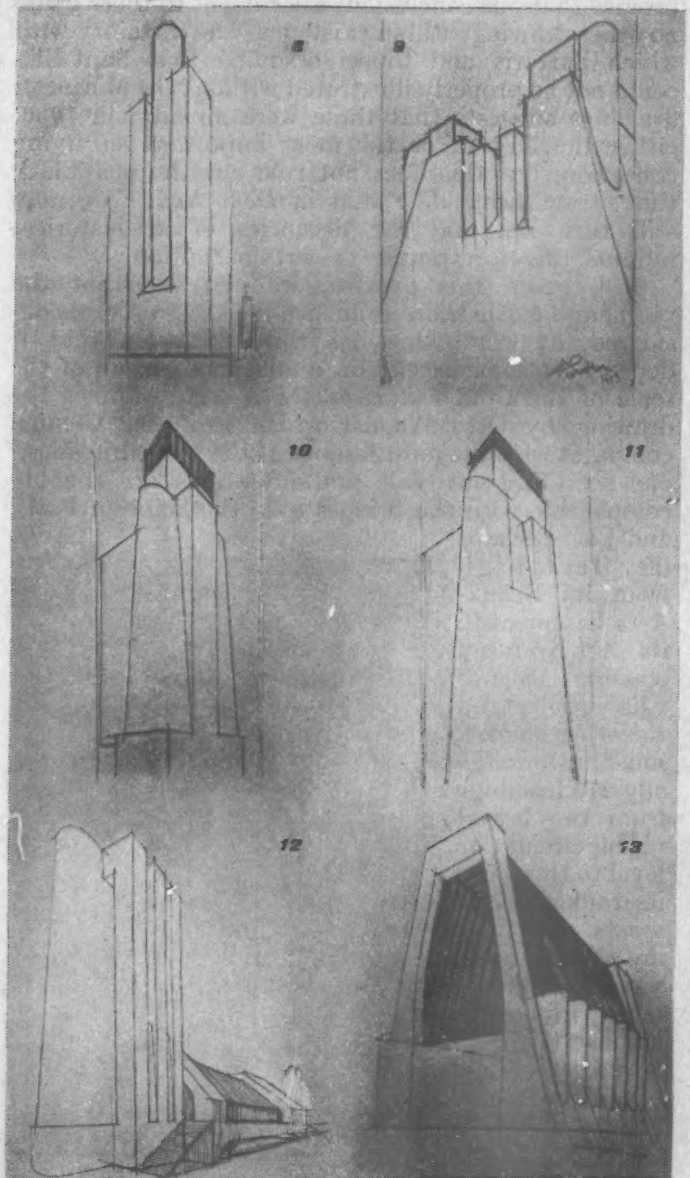
<sup>6</sup> I am indebted to Joseph Rykwert, for the suggestion that these drawings might be found in Como.

3 and 4, studies for Milan Central Station may have influenced the conception of the *Città Futurista*, of which 5 is the rail terminal. But, 3 could have influenced Mendelsohn; and 4 shows, ten years before Le Corbusier, an airstrip between skyscrapers.





6 and 7, Sant'Elia's sketches often show traces of Art Nouveau, but a more important tendency which emerges from the unpublished drawings at Como is the strong sculptural sense of 8, 9, 10 and 11. Possibly due to his work in civil engineering, it is at its best in projects for a factory, 12, airship hangar, 13, and two-decker bridge, 14.

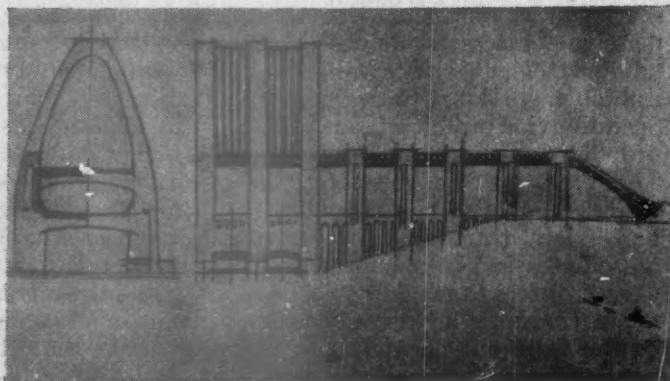


fact, there are nearly a score of drawings which show closer affinities than this, and reveal a designer whose intentions in the modelling and disposition of forms were of a simplicity and boldness far ahead of those of his older contemporaries Gropius, Lurçat, Mies and Le Corbusier at that time, though his functional and planning intentions remain inscrutable in the complete absence of any plans among these drawings.

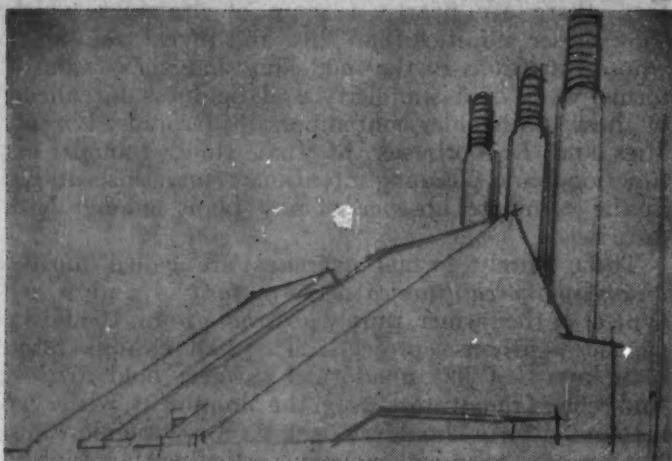
These purely formal exercises are called mostly *dinamismo architettonico* or *torre faro*; 8 and 9 are typical of the former, purely abstract group, 10 and 11 of the lighthouse projects. They all exhibit large plain areas of flat unadorned surface; bold arrises; thin refined re-entrants, as on the Monument, wherever a rounded form shoulders back on a rectangular one; the use of canted cut-backs in vertical surfaces, or of upright buttresses rising out of sloping planes; all imbued with a highly sculptural sense of form, of moulding and cutting large masses of apparently homogeneous material. But beside a sculptor's sense of form, one can also sense that of a civil engineer, of the nineteenth-century bridge and dam-builders, or of one who, as Sant'Elia had done, had occupied a responsible position in the works department of the city of Milan, and of the Villoresi Canal, even before his qualifying exams. Not unnaturally, it is when this particular and forceful formal sensibility is employed on substantial functional problems, especially industrial ones, that his talents begin to resemble those of a major designer.

The factory project, 12, is perhaps not the most exciting of these, though its combination of high, sculptural accents with the low shed between does pre-echo Mendelsohn again, in this case the factory at Luckenwald. But in projects like the two-level bridge, 14, or the even more proto-Mendelsohnian airship-hangar, 13, one can see a truly imaginative, but well-informed, appreciation of the possibilities of reinforced concrete, and can educe some idea of how Futurist architecture was to be not merely 'an arid combination of practicality and utility, but an art . . .' by virtue of the dynamic potentialities of diagonals and ellipses. However, it is in three power-station projects that we see the culmination of this engineer-sculptor sense of formal manipulation.

The theme of the generation of electricity was clearly much in the minds of the Milan group in 1913 and 1914, and it contributed a characteristically rhetorical image to Marinetti's *Manifesto of Geometrical*



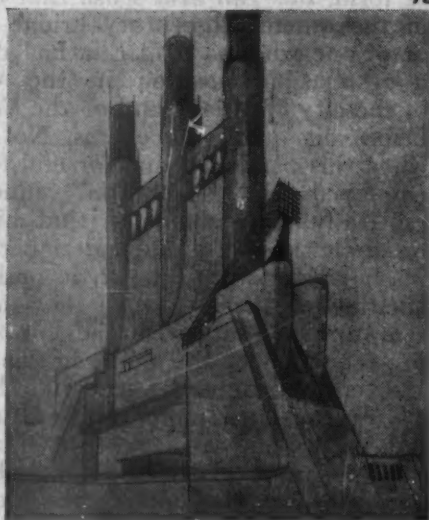
15



As a Futurist, Sant'Elia was naturally interested in new industrial building-types, and inspired by Marinetti's admiration for power-stations. This theme showed his capacity for functional simplicity in 15, for rhetoric in 16, and for sheer prophecy in 17. Signed and dated 1913, it anticipates power-stations of the 'thirties.

### and Mechanical Splendour:

'There is nothing in the world so beautiful as a great generating station, humming with power, holding back the hydraulic pressures of a mountain chain, storing the power for a wide landscape, integrated by control panels gleaming with switches and commutators. These powerful images are our only models. . . ' This passage, another example of Marinetti pioneering an aspect of machinery as an emotionally-loaded symbol that was to have a respectable career in the avant-garde thought of the twenties, also shows the change which had come over Futurism by 1914. For however mechanistic and emotive this image may be, it does not deal with noise, speed and physical impact, but is static, clean, subdued and essentially abstract. Sant'Elia parallels this with the superbly rhetorical composition of 16, with its sense of soaring *excelsior* and the shouldering up of the massive buttresses at its base; with the elegant understatement and simplicity of 15, which surely cannot have long to wait for realization by some Scandinavian architect; and in 17 with a design as prophetic as any of the propositions of the Manifesto. The block of the generator shed, with its ranked cylinders of the chimneys, its tall canted window and high transformer-tower (or condenser-stack) anticipates in general form and in some details, the aspect of power-plants designed by intelligent engineers in the last twenty years. It is far in advance of the worn-out classicism of Tony Garnier's almost contemporary power-house in Lyons, and few archi-



16

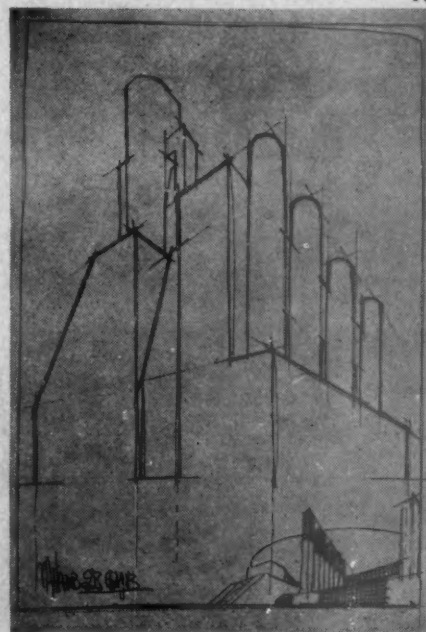
itects since have conceived of forms which so truly summoned up the mechanical and geometrical splendour of the theme as this sketch of Sant'Elia, done in 1913.

Where does this leave us with the various problems raised by the person and work of Antonio Sant'Elia. As to the Monument, we now see that, allowing for the fact that he despised monuments, this is the kind of monument he might have built. For obvious reasons he could not have designed a war memorial for 1915-18, but its flavour of frustrated engineering, its plain and simple modelling, its canted buttresses, and its general form combine to give it a place as an appendix to his works—and if a certain stiffness, and the rather unpleasantly *Novocentista* flavour of its base must be credited to Terragni, one should also recall that it is unlikely that the original architect would have been able in his own lifetime to erect a structure so blankly devoid of cornice or detailing.

The other two problems, that is: Sources and Stature, can only be dealt with under the important proviso that our conclusions are subject to there being no other drawings still in existence. The certainty with which Sartoris and Ciucci assumed that Sant'Elia could not be properly illustrated without the Marinetti drawings suggests that these were already, in 1930, either the largest, or the most important surviving collection, but this does not rule out the possibility that stray sheets, like that in *Dopo Sant'Elia*, may still turn up, and the decencies of art-historical method therefore require a certain caution.

Still, given this proviso, we can say that the problem of Austrian influence needs to be reconsidered, at least. One has the impression that it depends, to some extent, on a misapprehension of the scale of the *Città Futurista*, for if one examines the drawing by Otto Wagner which Professor Giedion compares with the most famous of the *Città* drawings,<sup>7</sup> one sees that its scale and intentions are roughly comparable with the bridges over the Seine in Paris, and is perhaps fifty feet high from its Beaux-Arts basement to its Art-Nouveau cresting. Sant'Elia's project, on the other hand, must be practically 270 feet high from the lowest visible circulation level to the top of its ranked radio-masts, and there are at least six visible circulation levels, anyhow, as against Wagner's two. On this kind of scale, what are compared to de-

<sup>7</sup> Space, Time and Architecture, p. 319.



17



corative details on Wagner's project are, in fact, quite large structural units. There certainly are Viennese influences to be detected, but they are more convincingly found in, say, the actual draughtsmanship of 14.

But these details are merely the surface flourishes upon a highly individual manner of conceiving architectural form, and the sources of that manner, with its simplicity and broad glyptic planes, are very difficult to identify in the Europe of 1910-14. Thus, though it is only too easy to see in Wagner where the architecture leaves off and the engineering structure begins, Sant'Elia's *Città* exhibits a completely integrated structural conception, and blends different materials as equably as, say, the Library Wing of Glasgow Art School. That Sant'Elia could have seen pictures of this celebrated elevation is unlikely, and we are driven back to an enquiry as to the men he met in the course of his practice and training—who taught structures at Milan Polytechnic, or Bologna,<sup>8</sup> whom did he work under on the Villoresi Canal, what engineering plants did he know, could he see in magazines, or were pointed out to him by Marinetti and Boccioni? Or was there still a constructive tradition descending from Antonelli's work in Turin and Novara, passed on to d'Aronco and the *Stilo Liberty*?

The fact that names and places do not immediately spring to mind is a warning that we have come to accept a rather narrow view of the sources of the Modern Movement, and inspires one to hope that some Italian student is currently gathering the personal memoirs of the survivors of what must have been an exciting period before it is too late.

As to Sant'Elia's stature in the Modern Movement, it seems unlikely that further drawings will seriously upset the estimate which one may now form, given the extended and deepened appreciation of his intentions which the unpublished drawings provide. Though he had no direct followers, he clearly ranks with Adolf Loos as an early abolisher

<sup>8</sup> Dr. Franco Carpanelli has kindly checked the Bolognese records, and points out that Sant'Elia graduated from the *Scuola Superiore di Belli Arti*, and that there was no Faculty of Architecture at Bologna in 1912, nor ever has been. On the face of it, this turns the search for engineering influences back to Milan, unless the School of Fine Arts at Bologna was remarkably in advance of its time.

of decoration, but whereas Loos seems often, as a consequence, to find himself stuck with a collection of rather dull boxes, Sant'Elia is rarely stuck, but goes on to create forms which are exciting in virtue of their mechanistic inspiration. In fact, putting the total corpus of drawings against the text of his manifesto, we see that he was among the very first to combine a complete acceptance of the machine-world with an ability to realize and symbolize that acceptance in terms of powerful and simple geometrical form. The acceptance is more complete than Le Corbusier's, the forms more powerful than those of Gropius.

To say, as Professor Giedion has done,<sup>9</sup> that he intended 'to introduce the futurist love of movement into his city as an artistic element,' seems now an underestimate of his mental calibre, and a misunderstanding of his place and time in the development of Futurism. The drawings entitled *Dinamismo Architettonico* make it clear that 'movement' as a quality of individual buildings has a very special meaning in his hands, while an examination of the *Città Futurista* drawings suggests that far from trying to 'introduce' movement, Sant'Elia is basing his whole design on a recognition of the fact that in the mechanized city one must circulate or perish. He seems to have foreseen the technological cities of the Fifties, each of which, in Gerhard Kallmann's neo-Futurist phrases,<sup>10</sup> 'is a dramatic demonstration of motion-existence articulating space. At the centre of congress motion surges upwards . . .



Though no acknowledged buildings to Sant'Elia's designs exist, the monument to the war dead at Como was designed by Giuseppe Terragni on the model of Sant'Elia drawings like 9 and 11—an act of homage to a compatriot whom he recognized as a great fore-runner both in arms and architecture.

in towers that pin-point the sky . . . horizontally it articulates highway ribbons charged with a continuity of energy missiles; omnidirectionally it radiates outwards by aeroplanes arriving and departing,' and having seen all this he tried, and may yet prove to have succeeded, to give this concept of the city a comprehensible architectural form which should enhance its character and facilitate its essential functions. Even though he left behind no completed buildings, he was a pioneer of the International Style, and the first to conceive the planning of cities as fully three-dimensional structures, and his position in the family-tree of the Modern Movement is thus assured.

<sup>9</sup> Ibid., p. 443.

<sup>10</sup> ARCHITECTURAL REVIEW, special issue, *Man Made America*, Dec., 1950, p. 407.

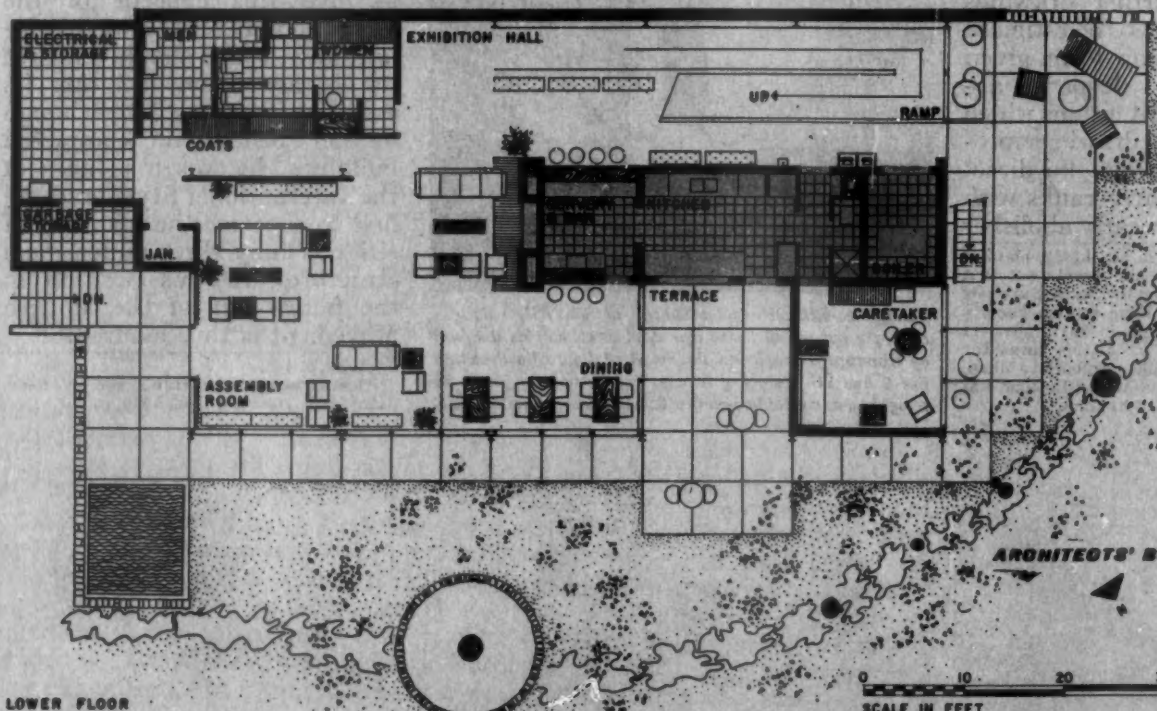
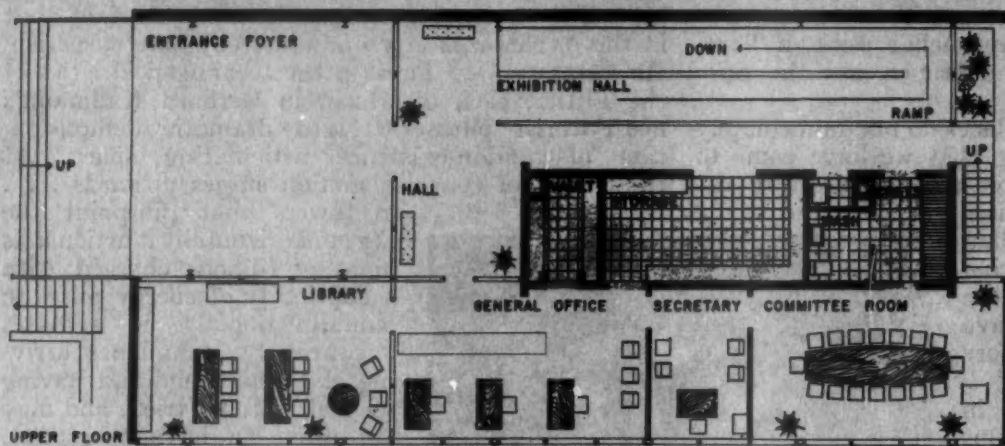


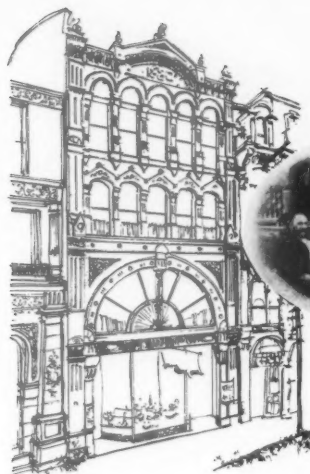
Founded in 1890, the Ontario Association of Architects is one of the senior architectural organizations of the North American Continent, and the direct descendant and heir to earlier societies of architects which preceded it in the province. Among its services to the profession may be counted the part it played in bringing into being—along with the other provincial societies—the Royal Architectural Institute of Canada, and its work for the improvement of professional training, including the creation of a chair in Architecture at Toronto University.

In spite of this distinguished record, or because of the concentration of effort which went into building it, the Association never found itself in a worthy headquarters building of its own, and it was not until 1949, the year before its diamond jubilee, that a committee was set up to look into the question of a suitable, permanent headquarters building. In the following year a site was found, and acquired, near Eden Smith's Studio Building—a structure closely connected with the arts and design, since at the time of its building in 1911 it represented an early attempt at progressive design, while its occupation by the Group of Seven and later generations of painters has kept up its connection with the plastic arts. The design of the Headquarters Building was put out to competition later in 1950, and in the following year the first prize was awarded to John B. Parkin Associates, whose design forms the basis of the present structure.

The resultant building is a remarkable achievement for any provincial society anywhere in the world—even in a more-or-less metropolitan province like Ontario. Most such societies have of necessity to inhabit existing buildings, and practical professions of faith in the good principles of architecture must be limited to their loving restoration and careful maintenance. But in Toronto this profession of faith can take the form of the creation of a resolutely mid-century building, designed around the needs of a specific group of men and women, and in its realization such entirely contemporary techniques as welded steel framing are brought into play, just as in its equipment it offers, as it were, an anthology of the best that is currently available to the Canadian designer. In its conception and construction the Ontario Association—of which the

John B. Parkin Associates are, of course, members—have set an example to other architectural bodies, by their practical demonstration of adherence to the best principles of contemporary architecture. Not all societies will have the means or opportunity to emulate them, but their gesture must constitute an ideal.





Left, McConkey's restaurant, King Street West, Toronto, meeting place of the Toronto Architectural Guild in 1894. Above, the members of the Guild in 1888.

## ARCHITECTS' BUILDING. ONTARIO

ARCHITECTS

JOHN B. PARKIN ASSOCIATES



1, the entrance portico from Park Road.

This two-storey building is the new headquarters of the Ontario Association of Architects, in Park Road, Toronto, and is situated on the side of a gully in the south-east corner of the Rosedale Park.

A module of 5 ft. was chosen for the ramp width and office furniture, and this was extended to the main elements of the building, to the 10 ft. floor to floor

height, the 20 ft. height of the building, its 40 ft. width and 80 ft. length.

The slope of the hillside was covered with a layer of fill varying in depth from 18 ft. to 30 ft., which necessitated a set of reinforced concrete caissons, 3 ft. in diameter, with ends belled out to 5 ft. 6 in. These were tied together by means of r.c. beams supporting the r.c.







3



4



5

floor construction. All these members were cast integrally, creating a continuous r.c. raft serving as a foundation for the superstructure. The superstructure consists of a steel frame with two cantilevered bays at the east and west ends of the building. All main structural members are completely exposed. Externally, the materials are: painted steel columns, beams and window frames, with panels and walls of buff brick. The roof construction consists of bituminous felt and gravel finish with  $\frac{1}{2}$  in. rigid insulation on  $\frac{3}{4}$  in. tongued and grooved sheathing supported on 2 in. by 12 in. timber joists at 16 ft. cc. between structural steel members.

To preserve the continuity of space within the building interior partitions have been avoided as much as possible and only where necessary are these carried up to the ceiling.

The buff brick is continued inside the building. The south wall of the exhibition hall is faced with blue-grey cork, while the boardroom and library panels and partitions are of French walnut. The service core is of purple brick, darkened with linseed oil.

2, on the facing page, the east corner, showing the ventilation louvres seen from the inside in 7. In winter the air is warmed by passing it over the convector heating system. 3, the building from Park Road. 4, the north-west elevation from the gully in Rosedale Park. 5, inside the entrance portico, the sculpture is by Jean Horne. 6, the caretaker's room on the lower floor and the committee room on the upper floor of the north-west corner. 7, interior showing the ventilation system.

6

7



8



9



10



8, a corner of the library. The furniture was designed by Bruno Mathsson. 9, the lounge dining area, looking towards the purple-brick service core. 10, the exhibition hall, looking up the ramp to the entrance lobby. 11, the exhibition hall, looking west. The hall was designed

11



for architectural exhibitions, and also to provide a centre for the affiliated arts. 12, the board room. The wall panels are of French walnut and the furniture was designed by the architects. 13, the general office looking through to the library.

12

#### ARCHITECTS' BUILDING, ONTARIO

13



Floor finishes in the circulation areas are terrazzo panels set in a dark putty-coloured matrix. Other floors are of  $\frac{3}{4}$  in. plywood supported on 12 in. by 12 in. joists at 12 in. cc. and covered with broadloom or a lino finish of grey tiles. The portico floor is covered with coconut matting. Ceilings are all of flame retardant fibre acoustic tiles.

Lighting in the offices, assembly room and exhibition halls is by recessed fluorescent fixtures with steel louvres finished in enamel, and they are fitted with warm white lamps to enhance the over-all colour effect.

Heating is by an oil-fired and completely automatic boiler unit, situated in the service core. The largely glazed perimeter is heated by means of continuous fin-type convectors.

# HILL HALL

Nikolaus Pevsner

Built for the statesman and classical scholar Sir Thomas Smith, Hill Hall is one of those buildings which bear upon the problem of the introduction of attached and superimposed columns into Elizabethan Architecture. The orders and entablature of the courtyard may, Professor Pevsner suggests below, be traceable to French Vitruvian sources, but the giant order of the south front, above—it also Elizabethan—presents a problem of a more complicated kind.

Hill Hall, Essex, has not so far found the attention it deserves. Its exterior, it is true, is Georgianized and the Elizabethan parts are somewhat irregular and not gratifying to the eye, but its courtyard remains complete with the remarkable motif of attached columns in two superimposed orders all the way round, one Tuscan, the other unfluted Ionic, and both carrying straight entablatures. The motif is, as far as I know, unique in England, and has for that reason been so baffling to scholars as to make them attribute it to a much later date. The late H. Avray Tipping<sup>1</sup> wrote: 'The columns are part of the transformation which gives to Hill Hall the character of a Late rather than an Early Renaissance house,' and the Royal Commission on Historical Monuments<sup>2</sup> expressed its agreement: 'The courtyard has all four walls of brickwork, largely original, except for the south half of the west side. In the north-east angle is an original semi-octagonal brick turret. The windows on the north side are probably original and there is an original doorway with moulded jambs and four-centred arch. The rest of the openings and all the ornamental work of the courtyard are modern.'

However, that is not so. Strype writing in 1698 calls the house 'quadrangular, adorned with great columns, imitating stone, which look very gracefully'. In the same passage it is true, he mentions 'great alterations and improvements made . . . by the present owner,' but the

short, squat proportions of the columns and their excessively wide spacing rule out late seventeenth century design. They go well, however, with the Elizabethan age, in which we find everywhere masons as well as patrons capable of such solecisms.

Once an Elizabethan origin is accepted for the orders of columns of the courtyard, the dating of Hill Hall offers no difficulties. The house seems unusually well dated, by some entries in its then owner's own hand. Sir Thomas Smith, for whom Hill Hall was built, entered into an autobiography:

1557 Montaula aedificavi.

1558 Aedificavi adhuc montis ansum.

1568 Coepi aedificare fortius et splendidius boreale et occidentales Montisaulae.

In addition Strype tells us that, when Sir Thomas died in 1577, he had made a will dated 1576 in which he left to 'Richard Kirby, his chief architect, twenty pounds, to be paid him as soon as the new house was tiled, and all carpentry work done,' and to John Dighton, his overseer of the works, ten pounds 'to

encourage him to take pains to see the workmen do their work as they ought.'<sup>3</sup> On the other hand, also according to Strype, the 'shell of the house' finished in 1568, and the 'new glass windows were put into the 'dining room upstairs' in 1569.<sup>4</sup>

Hill Hall then was built in two phases, 1557-58 and 1568 to c. 1585. It is tempting to assume that the irregular south wing belongs to the first and the motif which interests us to the second, especially on the strength of a curiously similar building development in two other of the leading houses of the same time: Sir William Cecil's Burghley and Sir John Thynne's Longleat. Both were begun in the fifties to plans, it seems, not yet fully regularized, and both assumed their final Elizabethan form only in second campaigns during the sixties to eighties.<sup>5</sup>

This parallel in itself could of course be entirely accidental, if it were not for the ties which link Sir Thomas Smith with both Cecil and Thynne, and for his life and experience altogether.

Sir Thomas Smith was born in 1512. In 1526 he entered Queens' College, Cambridge. His ability was so great that Henry VIII awarded him a King's scholarship, together with John Cheke of St. John's College. In 1531 Smith was made a fellow of his college, and in 1533

lecturer in Greek, a subject which was the speciality also of his more learned friend Cheke. The two were the pioneers of a modernised pronunciation of Greek in the university and were widely attacked for it, for instance by Bishop Gardiner in 1542 and later by Dr. Caius (in his *De Pronunciatione Graecae et Latinae Linguae*). William Cecil was eight years younger than Smith. He entered St. John's College in 1535 and in 1541 married Cheke's sister who however died in 1544. In 1538 Smith was made University Orator, and in 1539 he decided to go abroad. He went to France and conferred in Paris with Jean Strazellus who taught Greek at the Collège de France, and then went on to Padua where he settled down to study Civil Law. In due course he was given a doctorate. Dr. Caius lived at Padua at the same time. He arrived in 1529 took a degree in medicine, lectured in Aristotelian philosophy and returned in 1544. By then Smith had been back two years and been made Regius Professor of Civil Law.

It was due to Edward Seymour, Duke of Somerset, that Smith exchanged the university for the Court. The architectural importance of Somerset's new London residence, Somerset House, built chiefly between 1546 and 1549, has recently been recognized by many scholars. In an article which I published in this journal last September (vol. 116, 1954) I emphasized the appearance of columns at Somerset House and compared their use with that by Holbein and also in the Dorset monument at Wing. I warned how hard in many cases it must be to say for certain whether the source

<sup>1</sup> Quoted from British Museum Slo. 326 in *Archaeologia* vol. 58, 1860, p. 124. I owe this reference to Dr. E. Lang who has also kindly helped me greatly in my research on Hill Hall. It should, however, be added that Mrs. Dewar who has for some time done research on the life of Sir Thomas Smith tells me that Sir Thomas built two houses close to each other, one called Mount Hall and the other Hill Hall. The documents seen by her make her suggest that the dates 1547-58 and 1568 refer to Mount Hall of which not a stone remains above ground, and that Hill Hall was begun only in or about 1575. I hope Mrs. Dewar will soon publish the results of her research. Meanwhile the later date, if it must be accepted, does not alter the case made in this article.

<sup>2</sup> Strype l.c. p. 171. Mr. Summerson has found Richard Kirby's will and told me that Kirby was a relative by marriage of Sir Thomas Smith.

<sup>3</sup> L.c. p. 172.

<sup>4</sup> For Burghley see J. A. Gatch, *The Old Halls and Manor-Houses of Northamptonshire*, London, 1938, p. 5; cf. also J. A. Gatch 'The House of the Cecils', London, 1905, p. 48 in *William Cecil, Lord Burghley, for Longleat* C. Hussey, *Country Life*, vol. 105, 1948.

<sup>5</sup> *Country Life*, vol. 41, 1917, p. 452.

<sup>6</sup> *Essex*, vol. 2, 1921, p. 236.

<sup>7</sup> *The Life of the learned Sir Thomas Smith*, Ed., D.C.L., ed. of 1820, p. 172.





1, the Doric order, from Martin's Vitruvius.

of such motifs is Italy or France—France always standing for an adopted, translated, but even so secondhand, Italian. For Somerset House some motifs at least could, with certainty, be traced back to France. Sir John Thynne had been in France with the Earl of Hertford, Great Chamberlain in 1547,<sup>2</sup> and Sir John Thynne was the Protector's clerk or supervisor of the work progressing at Somerset House.

In 1548 the Protector had made both Thomas Smith and William Cecil Secretaries of State. By then Smith was also Provost of Eton and Dean of Carlisle. When Somerset fell, Smith, Cecil and Thynne were all arrested and kept in prison for longer or shorter periods. During Somerset's years of rulership Smith was for the first time sent abroad on an embassy. He was at Brussels in 1548, in France in 1551.

The places visited there by the embassy to which he belonged were Blois, Saumur, Châteaubriant, Angers, Nantes.<sup>3</sup> Under Queen Mary he was out of office and lived a retired life chiefly at Hill Hall, which had come to him by marriage in 1554. It was then, as we have seen, that he began to rebuild the house. After the accession of Elizabeth and Smith's ensuing return to favour he embarked on his chief embassy. He lived in France from 1562 to 1566 and followed the court of Catherine de Medici, the Queen



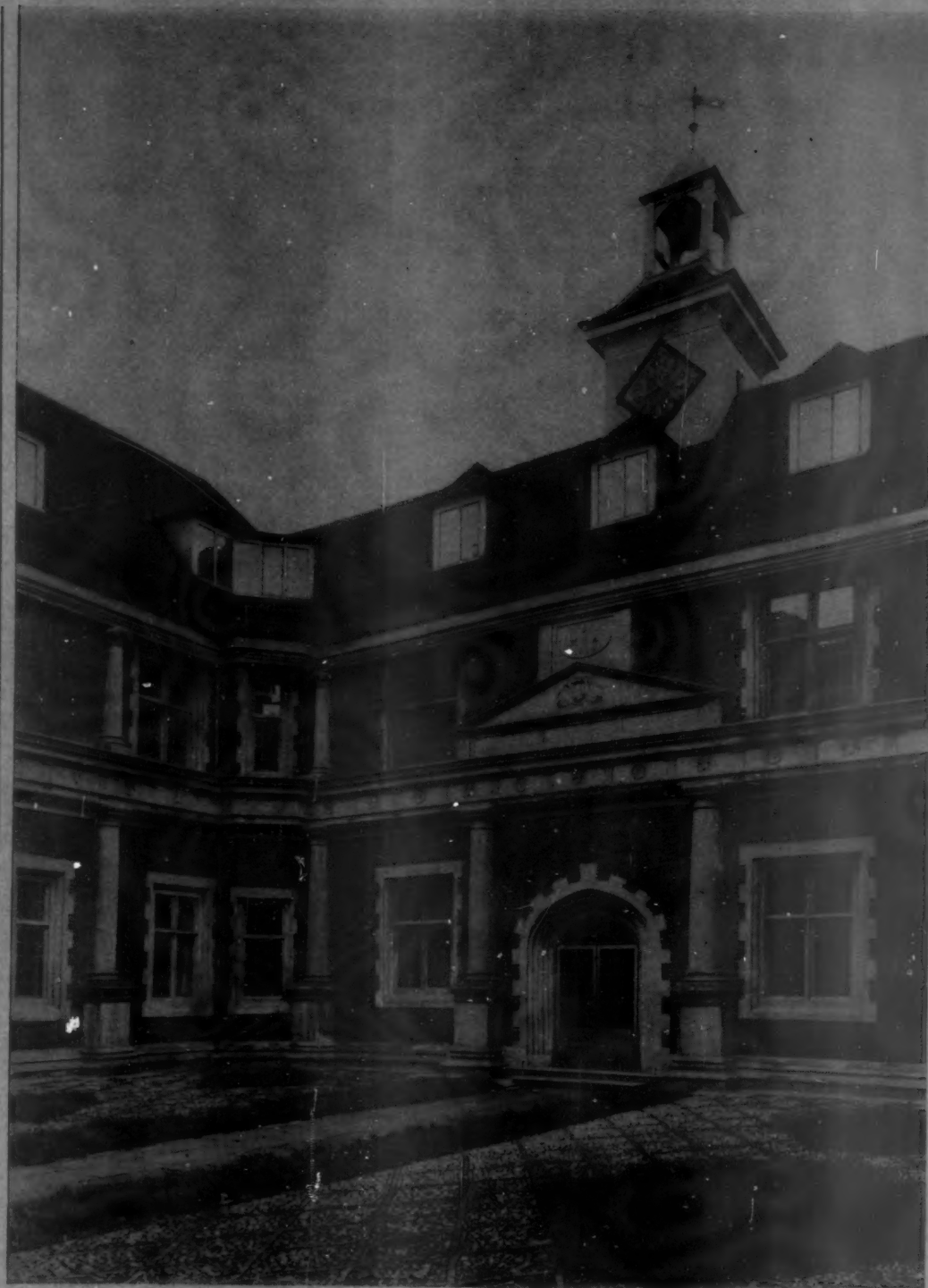
2, a Doric doorway, also from Martin.

Mother, through the country, as it travelled from place to place.

The last eleven years of his life require little comment. He was made a Privy Councillor in 1571, went again on a short embassy to France in the same year, and was at last once again made a Secretary of State in 1572 (to replace Cecil, who was then Lord Burghley and had

<sup>2</sup> See *Letters and Papers, Foreign and Domestic, of the Reign of Henry VIII*, ed. G. F. Gairdner and E. H. Brodie, vol. 21, pt. 1, 1906, p. 474.

<sup>3</sup> *Col. of State Papers, Foreign, 1547-53*, 1891, pp. 129, etc.



3, though the equine of the order, the wide intercolumniation and the flat entablature, at Hill Hall might all derive from Martin's edition of Vitruvius, there is no convincing sixteenth century documentary source for their occurring together with superimposed orders.

risen to be Lord Treasurer).

We can now return to the courtyard of Hill Hall. That the columns in two orders should belong to 1568 rather than 1558 is not only indicated by the 'splendidus' in Smith's note quoted before, but also by the style of the motif. Smith, it must be realized, was himself keenly interested in architecture. He was a man of extensive interests and wide reading, as is proved by the range of books which he possessed. Strype appends to his biography a catalogue of the library at Hill Hall in 1566, and this contains apart from Dante, Petrarch and Boccaccio (*Filicopo*), from Aretino, Straparola, Dubellay

and Grévin, from Castiglione's *Courtier*, from St. Augustine, Chrysostom, Origen and Bede, from Poliziano and Pico della Mirandola, also four editions of Vitruvius and one commentary to Vitruvius. They are marked in the catalogue as follows:

L. Vitruv di Architect.

L'Architectus: de Vitruve.

Le Vitruvio.

Vitruvius de Architectura.

Philonii comment in Architectur. Vitruvii.

That does not tell us much as to what editions they were, whether they were illustrated, and what Smith might have learnt from them.

The first seems an Italian edition, the second certainly is French, the third either Italian or French and obviously wrongly listed, the fourth Latin and the fifth in any case not by a Philo. Not one of the five seems to survive.<sup>10</sup> There were by the middle of the sixteenth century so many editions of and commentaries on Vitruvius that it would be no use trying to trace what Smith had. Italian editions had begun as early as 1486 and multiplied since. The first illustrated Italian edition was

<sup>10</sup> Sir Thomas Smith left most of his books to his old college at Cambridge, but his Vitruvianae are not in the library of Queens' College now.

Fra Giocondo's of 1511, the largest and best-known one Cesarino's of 1521. The best-known French editions are those by Jean Martin (1547) and by Guillaume Philander (1543 and 1544, later editions 1545, 1550, 1552, 1557). In addition there was of course as a modern and far more immediately useful source Serlio who had gone to live in France in 1540. His treatise on architecture had begun to appear in 1537 (Book 4, Venice) and continued in 1540 (Book 3, Venice), 1545 (Books 1-2, Paris), 1547 (Book 5, Paris), 1551 (Livre Extraordinaire, Lyons). French authors also had, by the time Smith travelled in France, begun to write on architecture, Ducerceau in 1559 (*Livre d'Architecture*), Delorme in 1561 (*Nouvelles Inventions pour bien bâtir*) and Bullant in 1564 (*Règle générale*). The first special Book of Orders—the first of many to follow—was Vignola's of 1550. So there are plenty of possible sources of Smith's architectural wisdom, and they should all be taken into consideration, especially as we happen to know that he possessed more architectural books than are contained in the catalogue of 1566. In a passage found by Gotch some fifty years ago<sup>11</sup> Cecil in 1568 wrote to Sir Henry

<sup>11</sup> *Early Renaissance Architecture in England*, London, 1901, p. 200.

Norris, then ambassador in Paris, asking him to provide for him there 'a book concerning architecture' which he had seen at Smith's house. The title unfortunately is not preserved, but some years later Cecil expressed the wish to purchase Delorme's *Nouvelles Inventions*.

The point is not without interest; for although Delorme and Ducerceau do not seem to contain anything applicable to Hill Hall, Martin's Vitruvius (Book Four, p. 62 verso) has an illustration which has superimposed orders of columns attached to walls. This in itself is of course a motif familiar from many pages of Serlio, but their squat proportions in Martin are specially similar to Smith's. However, Martin does not show them to be as widely spaced as Hill Hall. For this decisive motif there is apparently no precedent in the treatises. But there is at least one possible precedent in a French mansion still in existence: Bournazel.

Bournazel lies about 75 miles north-east of Toulouse, on the road between Rodez and Villefranche<sup>12</sup>. The house was built for Jean du Buisson Sieur de Mirabel and never completed. Its north façade, which concerns us here, is dated 1545, its

<sup>12</sup> F. Gêbelin: *Les Châteaux de la Renaissance*, Paris, 1927, p. 62, etc.; *Congrès Archéologique* (Société Française d'Archéologie), 1937.

much more remarkable east range is undated. The north front has the very same motif of attached columns in two superimposed orders, not at all a usual thing in France either.

Can Smith have known Bournazel? His frequent letters to London from his embassy in France<sup>13</sup> allow us to follow his progress through France. This led him to Lyons and Provence, and then by way of Montpellier and Narbonne to Toulouse, where he stayed for more than six weeks, before moving on to Bordeaux. At Toulouse he fell ill. His autobiography says: 'Jan. 10-Feb. 28 Aegrotavi ex frigore Tolosae; March 1 convalesci.' But it is probable all the same that, while at Toulouse, he met the Archbishop, Georges d'Armagnac. Now Armagnac had been Bishop of Rodez before. He is responsible for divers works of architecture in the Renaissance style begun as early as about 1530. From 1536 to 1544 he was in Italy as an ambassador, and on this journey he was accompanied by Guillaume Philander whose name we have come across as the earliest French commentator of Vitruvius. Philander was made a member of the Roman *Accademia Vitruviana*, when this private body of students of Vitruvius was created in 1542. He calls himself

<sup>13</sup> *Col. of State Papers 1563* (1869), 1564-65 (1870).

a pupil of Serlio<sup>14</sup> and lived at Rodez. He kept in touch with Armagnac at Toulouse and died there in February, 1565, that is at the very time when Smith stayed there. So Smith may well have known him. The *Philonis Comment. in Architectur. Vitruvii* can be no other than Philander's. And if Smith knew Philander, might he not well have visited Rodez and Bournazel?<sup>15</sup>

This is all that can be said. It establishes, not with full certainty but with gratifyingly close approximation, another link between the most classical mid-sixteenth century architecture in France and the Early Elizabethan style.

#### postscript

So far the most interesting motif of the exterior façades of Hill Hall has not been mentioned. The angle pavilions of the south and east fronts have each extremely widely spaced giant Tuscan columns carrying a straight entablature. Their details, especially the high bases, are similar to those of the smaller Tuscan columns in the courtyard, and they are too ignorant in many ways to make it likely that they belong to the alterations done in the late seventeenth century and referred to by Styrpe in 1698. Must it then not be assumed that they are the 'great columns' mentioned by Styrpe, in the passage quoted above, and not the columns in the courtyard. The case for the dating of the courtyard is strong enough even without Styrpe. But if this interpretation of Styrpe is accepted, can one assume such giant columns to have been designed in England in 1568 or even in 1575-80? In any case they are not on the sides of the house which, according to Smith were made splendidius. Moreover, the history of the spread of the use of giant orders is not much in favour of an Elizabethan date. Giant columns as against giant pilasters (which were used already by Alberti) occur once at Ecouen in a frontispiece of about 1555-60, and in Palladio's Loggia del Capitano in 1571. They became much more frequent in France later, but not early enough to make influence on England at all probable. And giant columns of the Tuscan order, moreover, seem to be completely absent in sixteenth century work. They were on the other hand particularly popular in the Wren office. Could they then at Hill Hall not be after all a very rustic echo from Wren, that is a late seventeenth century alteration? Such a case as the porch of Christchurch Mansion, Ipswich of 1675<sup>16</sup> makes it quite imaginable.

<sup>14</sup> L. Hauteceur: *Histoire de l'architecture classique en France*, vol. 1, 1948, p. 204.

<sup>15</sup> Alternatively, as Professor Blunt suggested to me, there may well have been courtyards of town-houses at Toulouse itself, with the motif of Bournazel. The Hôtel d'Assézar of 1555 has coupled columns and arches in superimposed orders, but orders with straight entablatures may just as well have existed. The town palaces of Toulouse were remarkably sumptuous.

<sup>16</sup> See *Country Life*, vol. 216, 1934.



4, the most likely source for the superimposed orders of attached columns would appear to be this partly completed courtyard at Bournazel, in the south of France. Built in the fifteen-forties and fifties, by no known architect, it could have been seen by Smith on his diplomatic travels.







*A sufficiently large part of the New Town of Harlow has now been completed for its architectural and townscape qualities to be seen and understood. In the article below Frederick Gibberd discusses the planning and landscaping principles as they appear in the now almost-completed Mark Hall neighbourhoods. On later pages will be found illustrations and descriptions of thirteen buildings or building-types to be seen there, with a map showing the route followed. W. Eric Adams is responsible to the Development Corporation for the building of the town, Frederick Gibberd is the Architect Planner, Victor Hamnett the Executive Architect and O. W. Gilmour the Chief Engineer.*

## HARLOW NEW TOWN

Some twenty thousand people are now living and working in Harlow, and building operations are geared to take in some six thousand people a year.\*

This review is concerned with the Mark Hall Neighbourhood cluster, and in particular the two neighbourhoods, Mark Hall North and South. Since it is the intention of the new towns to be self-contained and not satellites the industrial development and social facilities provided for the neighbourhood are also described.

Unlike other new towns situated in the London region, the site for the central area is in open countryside some two miles from existing development—the village of Harlow. In consequence the town centre could not be built until building operations had reached it, and before there was sufficient population to support central area functions. This situation has now been achieved and work is in progress on the Market Square.

Unlike the central areas of large cities the land is not so expensive, and the pressure on space is not so great, that it is necessary to require people to live in a dwelling form unnatural to them. Some eighty per cent of the population coming to the new town has a marked preference for a two storey house with a private garden. This percentage together with tight planning and the principle of mixed development, has enabled the neighbourhoods to be designed on a population density of fifty to sixty people to the acre. Although the number of people on each acre is nearly twice that of the average English housing estate, the area covered is a large one. Large areas of open space are also required for the school system, for recreation, and for the main traffic ways. Since any large area of land with an even pattern of development is dull, and since it was desired to obtain an urban

quality, the development has sought to contrast a pattern of built up areas, in which architecture forms the visual background, with an overall landscape pattern, in which the natural topography is the dominant.

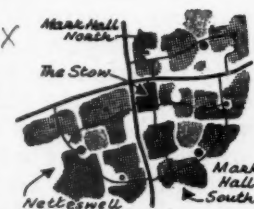
The built-up portions of the town already constructed appear more open than they will eventually be as sites have to be left for future development. Thus adjacent to the first neighbourhood centre are various open grass areas which are destined for such large buildings as a service garage, a twelve storey flat block and a church.

The existing topography is very beautiful and is used as the basis for providing a contrast between open and built-up areas. Variety in the built-up areas themselves is provided by architectural design.\*

### neighbourhood social pattern

The diagram, 1, shows the social structure of the neighbourhood cluster. The three neighbourhoods with a total population of some seventeen thousand are divided from each other by the main town roads and the landscape, and converge on the main centre situated at the cross roads—the traditional place for a shopping centre. This centre is within half a mile of its catchment area. The grouping of the three neighbourhoods made possible a large centre with some sixty shops and community facilities on an urban scale.

All three neighbourhoods have their own primary school located in the heart, close to which is a small



1, neighbourhood social pattern.

\* For a detailed description of the plan see *Landscaping the New Town*, by Frederick Gibberd, AR, March, 1948, pp. 85-90.

\* Each housing area (of some 150 to 400 dwellings) is designed by a different architect, either in private practice or as a design team in the Corporation's own architectural department; the schools are the responsibility of H. Conolly, the County Architect, who has again utilized the services of private practitioners; and both public and private bodies have employed their own designers.

centre consisting of four or five shops, a public house and hall, and a recreation area. All parts of the neighbourhood are within walking distance (a quarter of a mile) of the centre. This pattern ensures that school children walk to the quiet heart of the area and away from the main town roads; it provides day to day shopping facilities within easy reach and it provides a visual focus.

Each neighbourhood is sub-divided into a series of distinct housing groups of from 150 to 400 dwellings equipped with play spaces and in some cases a small tenants' common room. This comparatively small unit makes possible more intimate and friendly social grouping than is provided in a neighbourhood based on school sizes.

There are thus three stages of community grouping; the housing group with its play space; the neighbourhood with its primary school, minor shopping centre, hall and pub; and the neighbourhood cluster in which communal facilities are provided on a large scale.

The Secondary schools are sited in the landscape between the neighbourhood clusters as these serve the town as a whole. Both they and the Primary schools are placed where the contours are reasonable for playing fields, and where their architectural values can contribute towards the scene.

#### **circulation pattern**

The two main town roads run at right angles to each other between the neighbourhoods and intersect at the centre. That running East to West (First Avenue) forms the main connection to the town centre, and the other one (Howard Way) to the industrial area. The roads are free of building frontage, are twenty-two feet wide, have a minimum number of intersections, and large radius curves to give a reasonably fast and smooth traffic flow. The roads are designed to give varied prospects when driving along them, and to combine with the topography to form interesting road architecture, 3, opposite.

Spine roads are run from these main town roads through each neighbourhood to connect the housing groups to each other, to the centres and to the rest of the town. These roads are 22 feet wide and being used as building frontage, are kept to the absolute minimum to avoid restricting the housing layout.

A general development plan showing the main town and spine roads was given to each architect when asked to design a housing group. It was his responsibility to design the roads in his area of land, the only restriction on the plan pattern being the spine road passing through or alongside his area. It was thus possible to make an architectonic approach to the layout; dwellings could be grouped in relationship to the landscape and to form spatial compositions, and the road pattern evolved to suit them—the reverse of the usual practice of laying down a road pattern and then placing dwellings on its frontage.

After the road layout had been agreed between the architect and the engineer, the latter prepared the detail design of the roads, built them and handed them back to the architect.

Not only did this procedure give opportunities for town design, but it led to great savings in road costs

—for example, dwellings could be grouped round pavings or a 'cul de sac,' or road intersections could be adjusted to make the buildings occupy the full frontage with no unnecessary gaps at street corners.

The heart of the housing group is in many cases a paved square or close, with no road intersecting it, 4. But the size of such pedestrian spaces was limited by the distance tradesmen, and in particular the coal and dust men, were willing to carry. After a great deal of experiment, a dimension of 120 feet from the road to the doorway of the dwelling proved to be satisfactory. Roads running from a paved close or 'cul de sac' are only 13 feet wide, and from this they increase to 16 feet before joining the spine roads.

The resulting organic pattern can be seen in the diagram of Mark Hall North, 7. It can be likened to a river: the source is the small square or close of dwellings and from here the road becomes broader in scale, and the intersections become fewer, as the traffic increases in volume to flow into the main town roads.

It will be noticed on this diagram and the aerial view that there are no cross-roads, all junctions being in 'T' form—the main crossing at the neighbourhood centre is temporary, the ultimate form being a roundabout.

The effect on the townscape of the services, and the need to provide an adequate view for motorists at traffic intersections is seldom understood. For example, the land between the road and the dwelling frontage is not just virgin soil but the path of a complicated system of services. The diagram, 5, shows what may be below the surface. It is illogical to place services under a road and in consequence they take up a width of 9 feet beyond it—a dimension accepted by the services authorities as giving a reasonable working distance. The sewers are also laid outside the roads for accessibility, and they require a trench about three feet wide; furthermore this trench must not affect the foundations of the building, or be affected by them, and so the dwelling must be set back beyond the sewer a safe distance—an angle of dispersal of 45° is the usual practice. In addition the house drains may still further widen the land that is sterilized to building. The consequence is that the architect cannot always place his building as near to the road as he may wish, and a close relationship of dwellings to each other is impossible. It is true that the buildings can be brought together around paved areas, but there must be roads to connect these paved areas together and such roads must be used as building frontage if the capital cost, and therefore the rent, is to be reasonable.

A 22 feet wide spine road plus all its services is likely to be a wide space, and it is often that three or four storey buildings are necessary to establish a visual relationship across it. But such buildings are more costly than two storey houses, and they are more difficult to let.

There is much the same story with the road junctions. Here it is necessary to keep the corners sufficiently open to give the motorist a view of on-coming traffic. The angle of the 'sight line' can be grossly exaggerated, but a case such as that shown, 10, is not unreasonable for a junction between sixteen and

*continued on page 315*

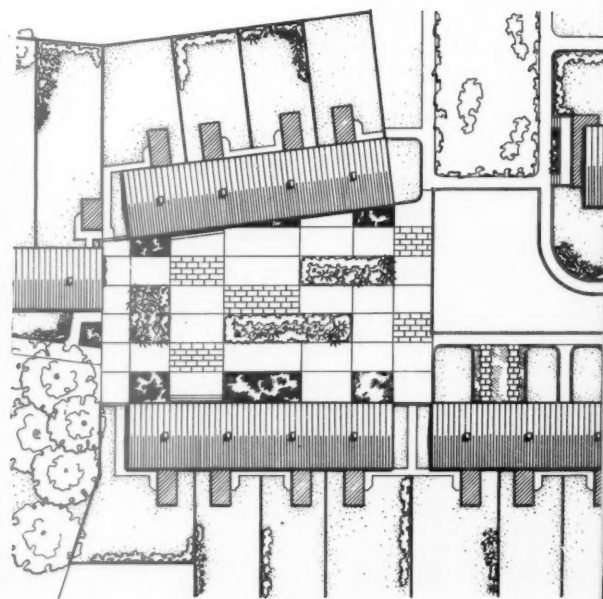




2, aerial view showing Mark Hall South in the foreground and Mark Hall North and the industrial estate beyond.

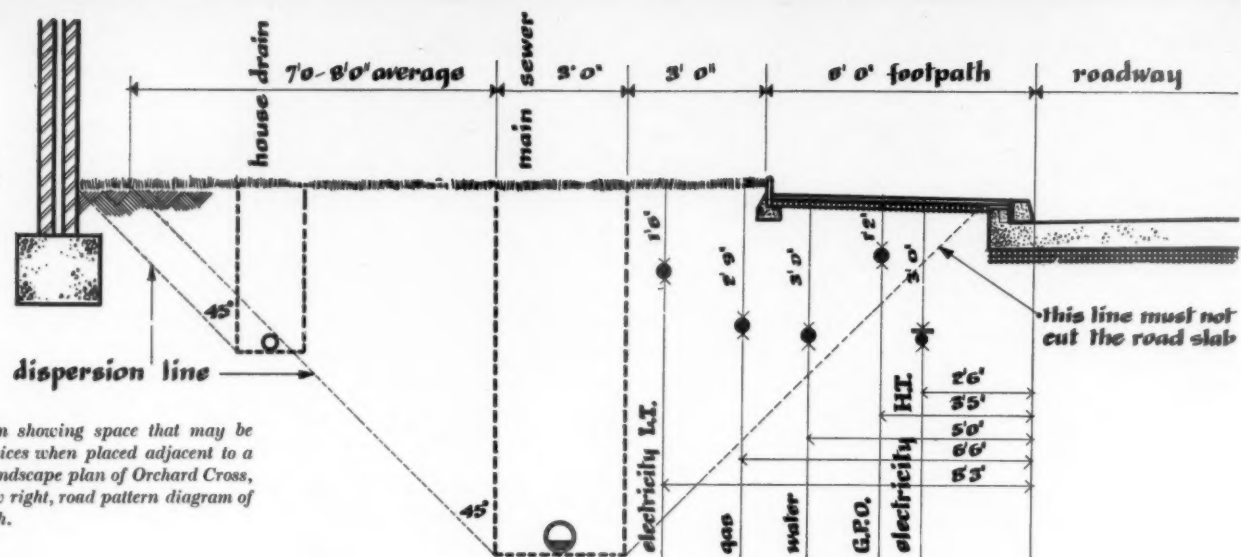


3, a cycle underpass below First Avenue.

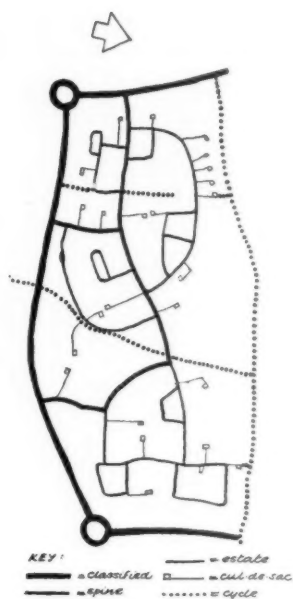
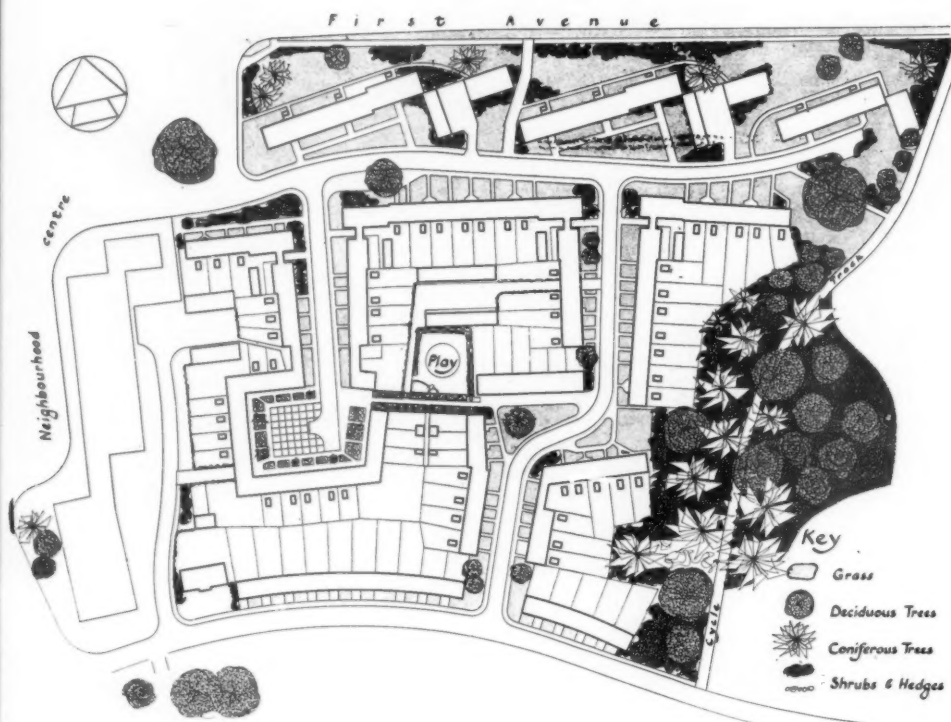


4, housing grouped round a pedestrian square.





5, right, diagram showing space that may be taken up by services when placed adjacent to a road. 6, below, landscape plan of Orchard Cross, Area 13. 7, below right, road pattern diagram of Mark Hall North.



8, one of the landscape belts which run between neighbourhoods. 9, bollards on each side of the underpass at Tanys Dell.

eighteen feet wide roads; such an angle may prevent the buildings being knit closely together and leaves an area of ground which, although better treated as a paved area, is generally grass.

An independant system of cycle tracks is provided; where they cross main roads, underpasses are provided, 3.

#### landscape and building pattern

The neighbourhoods are separated by landscape belts through which the main roads run and in which are sited large areas for recreation such as play fields and the secondary schools. These belts are intentionally broad to prevent the housing closing up visually, and to give the maximum contrast between landscape and building, 8. But inside the neighbourhoods the landscape is restricted to that necessary for recreation and to topographical features worth keeping to give the area individuality. Such natural features that are retained are used to separate one housing group from another, but in the main visual variety is provided by a change in architectural character—each, area, as described above, being by a different designer.

The housing areas are designed to a system of mixed development to ensure that each family has available the dwelling most suitable to it. The housing is classified into two main groups: Standard I for the lower and middle income groups and Standard II for the higher. The grades are not arbitrary, and design is varied within the Standard I category to provide a wider range of rents and choice of dwelling. Dwelling sizes vary from bed-sitting room flats in tall buildings to detached five bedroom dwellings standing in their own grounds.

The majority of the new families wish for a two storey house with a private garden in the rear which eventually leads to a suburban uniformity in scale, however skilled the architect may be. Some three or four storey flat blocks have been built in each area and further changes in scale and on the skyline have been obtained by such devices as building flats over houses, or houses over houses (maisonette blocks), and by three storey housing. In addition four tower or point blocks are sited in the neighbourhood to form large scale focal points from the main town roads. In Mark Hall North the percentage of flats is about 29 per cent, and over the complete neighbourhood cluster 20 per cent.

In the first areas to be developed in Mark Hall North, the dwellings are sited in a wide variety of ways with considerable variations of density and the development tended to be open. But due to the experience gained

there was a general tightening up of layout and increase in density in subsequent areas. In particular the tenant's desire for a private garden in which he can do more or less what he likes leads to the development of corner flats, screen walls and other devices to hide the rear gardens. The Standard II houses are generally sited on the edge of the area or on irregular land where gardens of different shapes and sizes can be provided.

After experimenting with gardens of various sizes a minimum area of 100 square yards proved satisfactory for most tenants, but allotments are dispersed over the neighbourhood for those whose hobby is growing things—this policy of minimum gardens backed up by allotments led to considerable savings in land.

The spaces formed by the dwelling groups are regarded as part of the townscape and in consequence the aim was to establish a relationship between the floor and the walls. There are therefore no front gardens, the space being designed as a horizontal surface. To avoid grass verges, the footpaths are run next to the carriageway. The area from the back of the paving to the dwelling fronts is treated with a variety of materials, but owing to the cost of hard pavings grass is the most common.

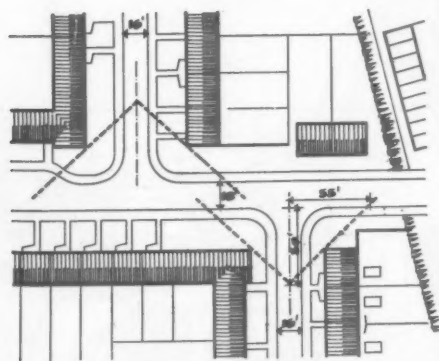
Where the area is a landscaped one the footpaths leave the roads to take short cuts or to avoid natural features like tree clumps.\*

The general landscape pattern of the neighbourhood is one of surrounding farm and wood land flowing into the town along stream courses and main roads, with a secondary flow along the footpaths interlacing housing and open space. The aim of the landscape treatment was to exploit natural characteristics employing indigenous forest trees and planting of the wild type, e.g., oak, hornbeam, sycamore, poplar, Scots pine, birch, holly, thorn, viburnum, euonymus, Traveller's Joy. This treatment offers a smooth transition from rural to urban landscape and heightens by contrast the sense of cosiness within the housing areas.

The existing parkland surrounding Mark Hall and areas of woodland provide the main open space. Old gravel pits accommodate dry playgrounds for children. Surplus excavated material has been contoured to mounds, and later planted with trees to screen industry or filter road noise from housing.

To contrast with the naturalistic treatment of the surrounding woods and roads the housing areas are more sophisticated in landscape design. The plan, 6, is typical. Existing natural features and tree types provide the key to preservation of genius loci, transposed to the urban idiom. The ground pattern is shorn turf and paving, with ground-hugging shrubs, most marked in the westerly square from which a cobbled walking way gives access, past bollards, 9, under pleached limes to more grassy squares to the East. Forest size trees, drawn together in groups for emphasis, assist scale and intricacy. Evergreen shrubs and hedges are chosen for shelter and screening. The centrally situated play space for smaller children has a stabilized grass circle surrounded by hoggin.

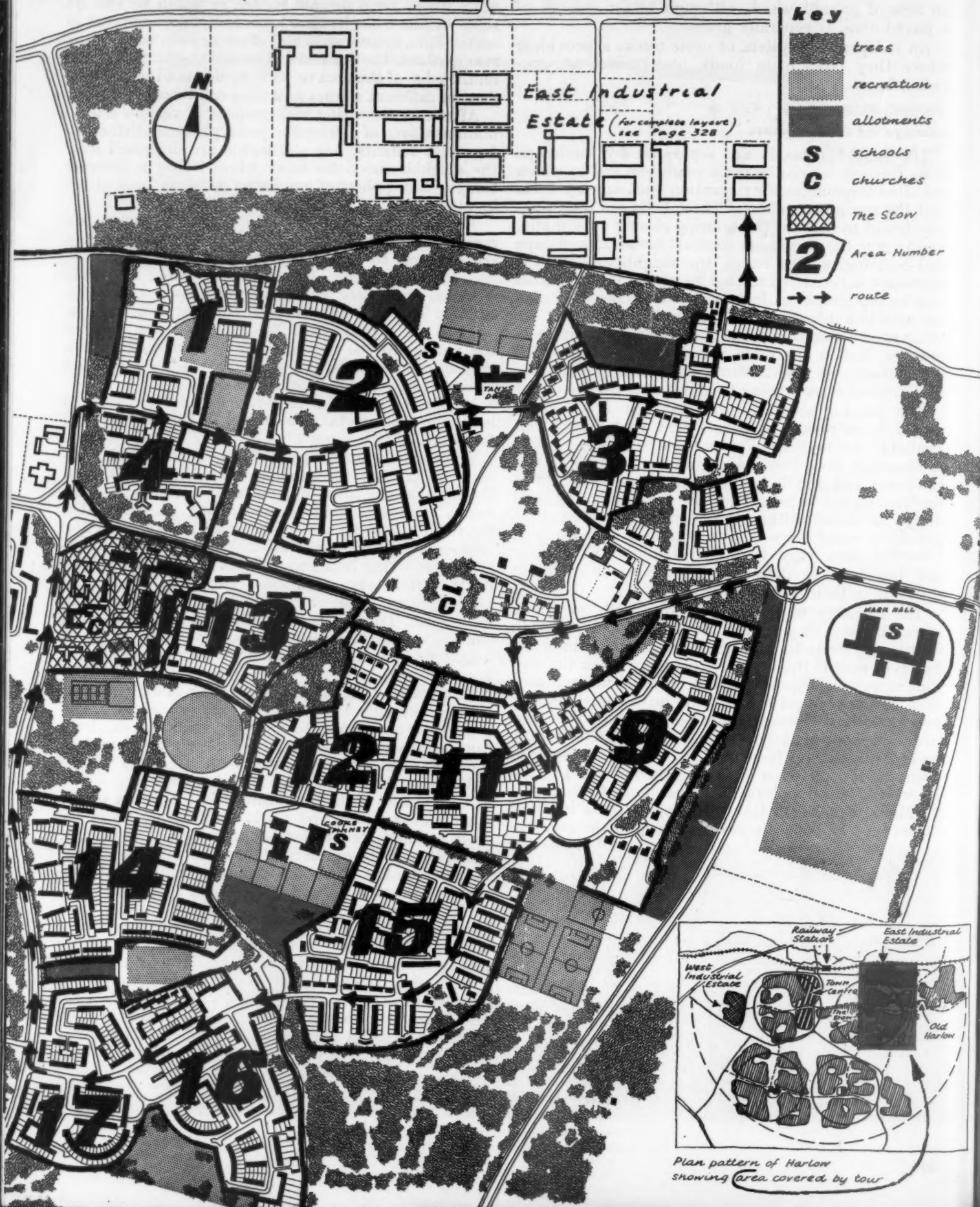
\* The general landscape designs were prepared by the landscape architects, Sylvia Crowe and Bodfan Gruffydd, and those to the Housing areas by the architects in consultation with the former.



10, "sight lines" at corners of road.

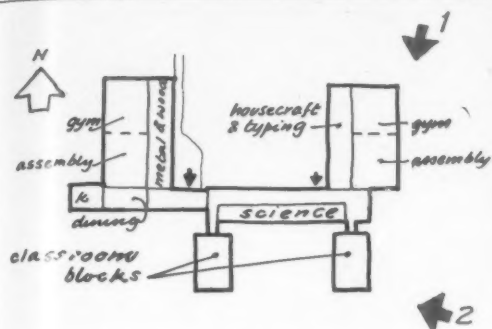


# **Mark Hall North and South neighbourhoods, Harlow**





On this and the following pages are illustrated descriptions of buildings in the newly completed neighbourhoods of Harlow, arranged in the order in which they would be seen by a visitor following the route shown in the map opposite, from Mark Hall School, adjoining the main road, to the industrial area near the railway. Some of the industrial buildings lie off the map, but are found on a detailed plan on p. 328.



#### Mark Hall Secondary Modern School

Architects: Richard Sheppard & Partners, in collaboration with the County Architect, H. C. Conolly.

The school is a six-form mixed entry for just over a thousand children. There are two four-storey classroom blocks, connected by low glazed links to the main part of the school. This is in the form of a U, with an assembly hall, kitchen, gymnasium, workshops, library and staffrooms to the west, and a similar block with assembly hall, gymnasium and housecraft rooms to the east. The science rooms are on one floor and face south, in a low block which links the two arms of the U. London stock and Staffordshire blue bricks have been used externally. Panels under windows are finished with black glazed tiles, except the classroom blocks, which have a pattern of black, lemon-yellow and white tiles (see 2 and 3, and frontispiece drawing on p. 310).



#### Area 9, Felmongers

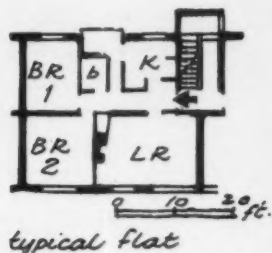
Architects: Harlow Design Group. Frederick Gibberd, Architect Planner. Victor Hamnett, Executive Architect. J. S. Rank, Senior Architect. G. T. Goalen, Industry. A. J. McCowan and D. L. Dyer, Housing. R. E. Turner, Planning.

The area is a well-timbered one and the layout was designed to use the trees as part of the street picture. 4, two-storey, three-bedroom terrace houses.

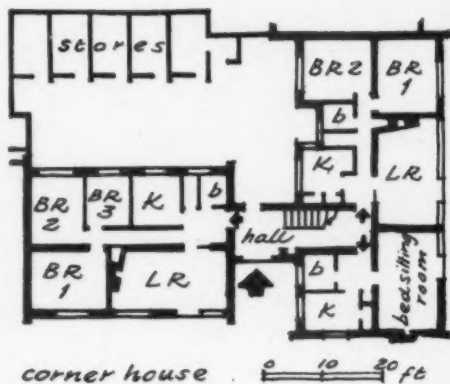


# HARLOW NEW TOWN

A feature of the Felmongers scheme is the central square, 5, containing three-storey flat blocks.



Two-storey corner flats, 6, are used to give a built-up appearance and to screen back gardens.



## Area 11, Churchfield

Architects: Richard Sheppard and Partners.

Three-storey one-family houses containing five bedrooms, 7. On the right of the photograph are two-storey, three-bedroom houses completed in 1952.



# **"The Spinney" County Primary School**

Architect: H. T. Cadbury-Brown, in collaboration with the county architect, H. Conolly.

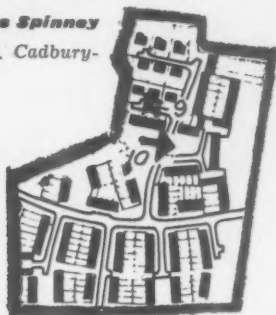
The school, 8, comprises three units, junior 320 places, infants 240 places, and a dining/kitchen block. These face on to a central space. The teaching units are grouped round the assembly halls which rise, with a high glazed clerestory, through a general roof level which is low. Bricks are dark-brown Lingfield semi-engineering. Metal windows finished dark grey metallic paint. Fascias painted white.

8



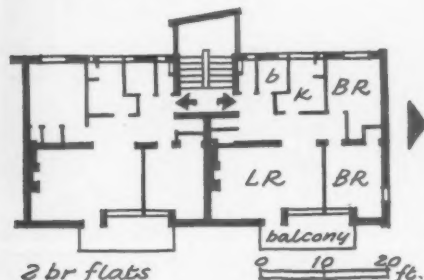
## **Area 12, Cook's Spinney**

Architect: H. T. Cadbury-Brown.



The programme included three five-bedroom, two-bathroom houses, 9 is one, in Cook's Spinney, designed with the same details for windows, eaves, roofs, etc., as the remainder of the houses. Heating is by a No. 6 New Carlton boiler feeding a bank of radiators in the hall. These radiators also serve the dining/living room and the study. Bricks are Sussex stock; roof Bridgwater tiles; Finlock gutter. 10, three-storey flats with load-bearing brick, cavity wall construction (inner skin 9 in. brick work on ground floor), reinforced concrete floor and staircases; roof of Bridgwater double Roman dark-brown tiles; the long elevations rendered and plastered with Tyrolean silver-grey colour-mix.

9

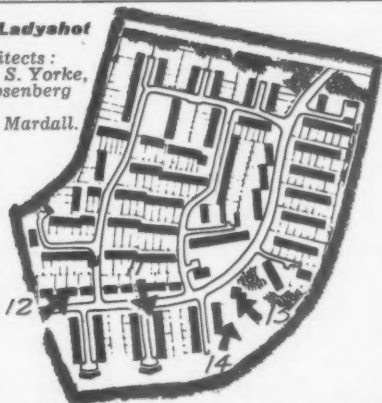


10

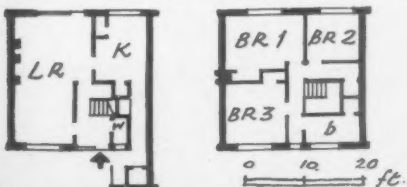


## **Area 15, Ladyshot**

Architects: F. R. S. Yorke, E. Rosenberg and C. S. Mardall.



11, terrace houses in the Ladyshot area, which is a mixed one of houses and flats. These are



11

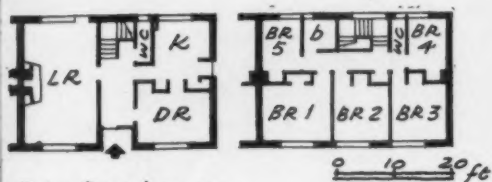
Type F terrace house





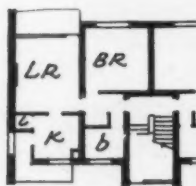
# HARLOW NEW TOWN

three- and four-bedroom houses, planned in the manner of the London mews. The end houses have built-in garages and intermediate ones have their garages grouped at the end of the mews. These mews run directly down towards the wood, at right angles to the spine road, so that the trees can be seen from within the site.



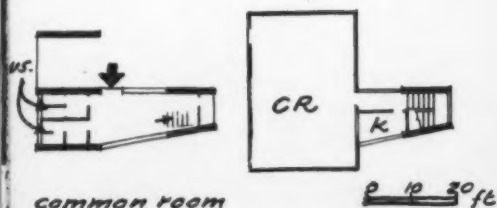
5 br. type house

The two-storey houses, 12, are constructed of cavity brick walling on strip concrete foundations, flettons are used below ground and yellow stock bricks, milds, seconds and LCC grade facings above. Ground floors are concrete in situ with asbestos resin tiles on screed. First floors are boarded on joists and the roofs are single-pitched timber construction with asbestos cement Trafford tiling on building paper. Windows are timber mainly sliding, Yorkshire lights on garden fronts and standard steel with



1 br. flat

2-ft. opening lights on the access side. 13, four-storey one-bedroom flats seen beyond the Common Room, 14, which provides for the social needs of the 490 dwellings in the area. It is used for whist drives, dances, Mothers' Union meetings, Boy Scouts, etc., and contains a hall with a small kitchen adjoining. The main accommodation was planned on the first floor to avoid a hut-like or temporary appearance.



COMMON ROOM

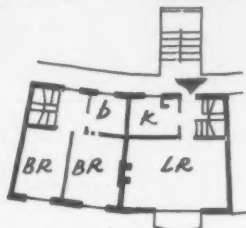




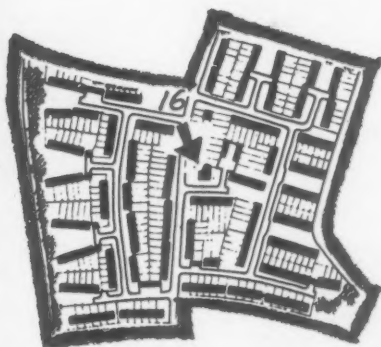
#### Area 16/17, Pennymead

Architects: Norman & Dawbarn.

This maisonette block, 15, is one of three. The construction is load-bearing brick walls with hollow-pot floor between maisonettes at second-floor level; intermediate floors and roof are of wood. Facing bricks are Leicester Mixed facings with red Surrey stock pilasters on convex side.



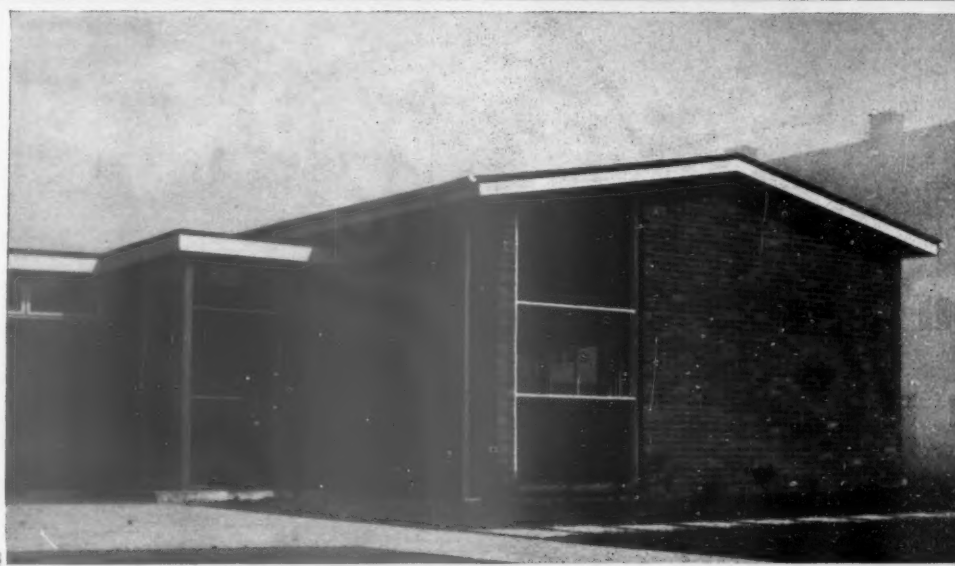
typical maisonette 0 10 20 ft.



#### Area 14, Blackbush Springs & Vicarage Wood

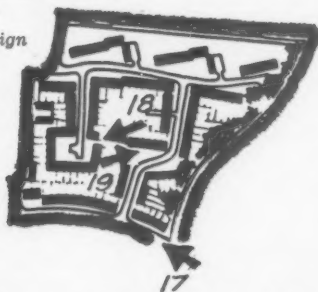
Architects: Harlow Design Group.

16, the tenants' common-room at the centre of the Blackbush Springs and Vicarage Wood area.

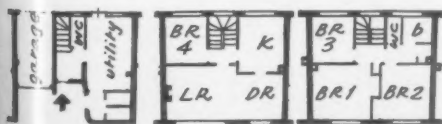


#### Area 13, Orchard Croft

Architects:  
Harlow Design Group.



The south of the Orchard Croft area is designed as a three-storey curved terrace, 17, to overlook, and give definition to, the cricket field. On the north boundary three-storey flat

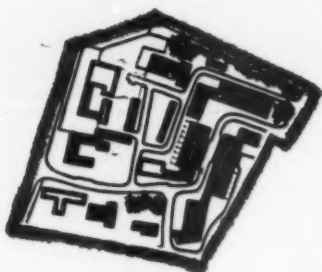
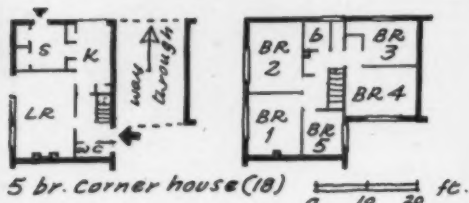


3 storey 4 br. house

0 10 20 ft.

## HARLOW NEW TOWN

blocks are inclined to the road to give distant views both from and into the neighbourhood centre. The core of the Orchard Croft area is a tightly planned square with continuous walls and built-up corners, 18. From this a pedestrian way runs in one direction into the shopping street and in the other to an adjacent close, 19, in which there is a three-storey terrace house block.



### The Stow Neighbourhood Centre

Architect-Planner: Frederick Gibberd.

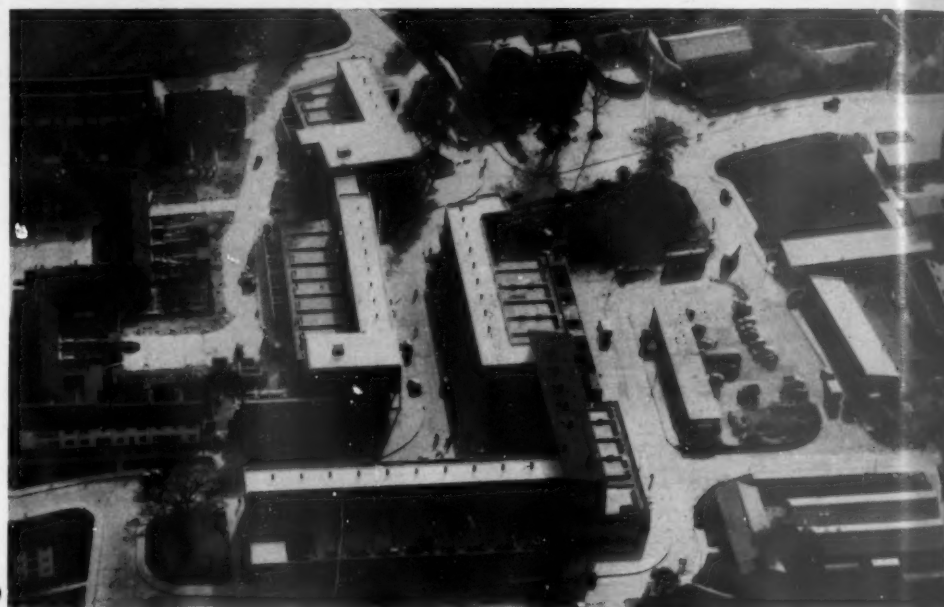
Executive Architect: Victor Hamnett.

Senior Architect: S. S. Rank.

Architect-in-Charge: A. J. McCowan.

The centre has three broad zones; shopping on the east, service industry on the west and recreation on the south (plan page 324 and aerial view, 20). The shops are arranged with other building types to form two squares or piazzas connected by a straight and narrow shopping street. The plan form is Z-shaped so that the views are closed in both directions down the street, 25 (facing page), and so that the views are closed into each square, 28, page 324. The north square, 26-28, page 324, is principally business and is open on one side giving a view out of the space to the adjacent housing area and, in the distance, the church. The shops on one side are terminated by a bank and the Post Office and on the other by a public house, 22 and 23. The south square, 24 and 25 (facing page), combines business and pleasure and is more loosely composed. A dance hall is placed over the shops at the south end and is linked to the shopping street by a restaurant bridging the pedestrian way to the adjacent housing area, 25 (facing page). The dance hall itself is two-storeys high, with windows the full height to give a spatial link with the trees which are hard up against it, 24 (facing page). The shops themselves have

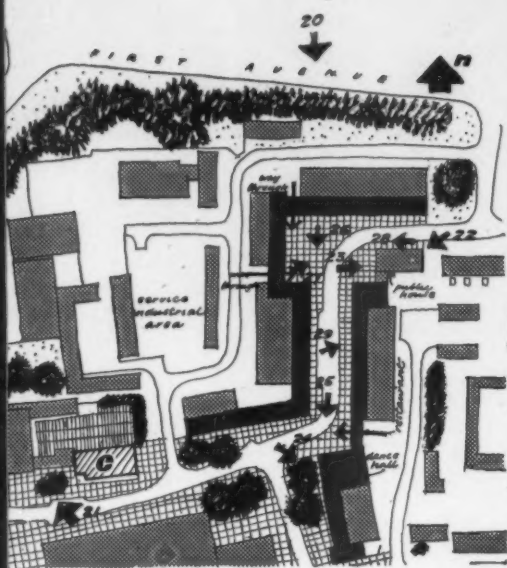
[continued on page 324]







# HARLOW NEW TOWN



either recessed fronts, 29, forming an arcade or a projecting canopy. The existing Vicarage on the south was converted to a community centre. Adjacent to it is a health centre and on the opposite corner is the Methodist church group, designed by Paul Mauger and Partners, 21. Street lighting generally is by fluorescent light fittings fixed to the face of the buildings with wiring carried out in internal chases. The purpose of the service industrial area is to provide accommodation for all the small servicing industries: it also provides for car parking and garaging and for shops' stores.

26



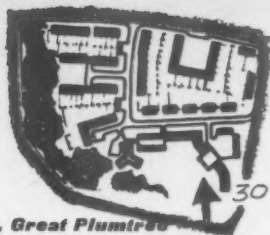
27  
28



29



B  
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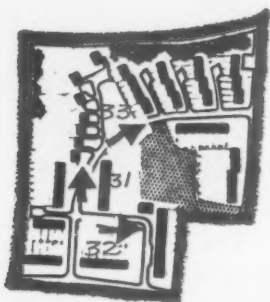


#### Area 4, Great Plumtree

Architect: E. C. P. Monson.

This block is the first stage of a scheme eventually providing 58 flats. The three-storey block contains 28 flats consisting of six two-room, 16 three-room and six four-room dwellings. The final stage will be the erection of a ten-storey Y-shaped tower block of 30 flats to the west. The building is constructed of load-bearing walls with hollow-tile concrete floors. The facing bricks are hand-made Surrey multi-coloured facing bricks with a band of London stocks above the top-floor window cill level. Cream pointing has been used to the facings. Internal window cills are formed of quarry tiles.

30



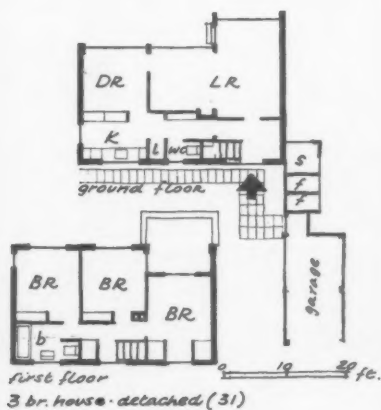
#### Area 1, Glebelands

Architects: Harlow Design Group.

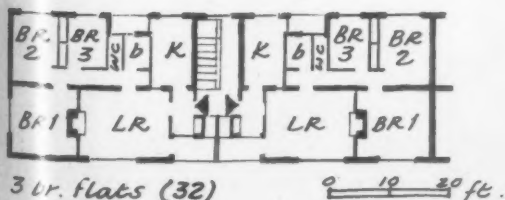
The core of the Glebelands area consists of two three-storey flat blocks linked by a Tenants' Common Room, left of 32, and associated with children's play areas, designed by Miss Sylvia Crowe.

The forecourt of one of the flat blocks, 31, is a cobbled square in which is sited Miss Barbara Hepworth's Contrapuntal Forms. A block of three-storey terrace houses, 33, is placed on high ground and at right angles to the flats to break the skyline.

31



32



3 living flats (32)

325

33







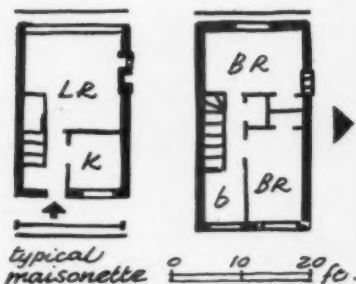
**Area 2, Tanya Dell and The Chantry**

Architects: Fry, Drew and Partners.

Assistant Architect for flats: Theo Crosby.

Assistant Architect for houses: Barbara Auld.

The area provides 161 three-bedroomed and 23 four-bedroomed houses; 21 one-bedroomed and



82 two-bedroomed flats and four one-bedroomed bungalows for old people. The terraced blocks of houses generally lie along the contour lines, and face downhill towards the most interesting views. On the higher ground stand the three and four-storeyed blocks of flats, surrounded by grassland, and are arranged in a series of connected units. The flats in this central group are all linked to each other by a central hot-water and heating system, which



3 br. terrace house

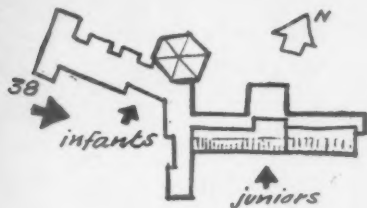
also serves a communal laundry. The area also contains a health centre. Ground-floor walls are 11 in. cavity brickwork, first-floor 6 in. hollow clay blocks rendered and sprayed. Ground floors are concrete slab with Marley tiles in mastic on waterproof screed, and first floors timber joists and boards. Roofs are of wood construction with 2 in. woodwool insulation and finished with aluminium sheets.



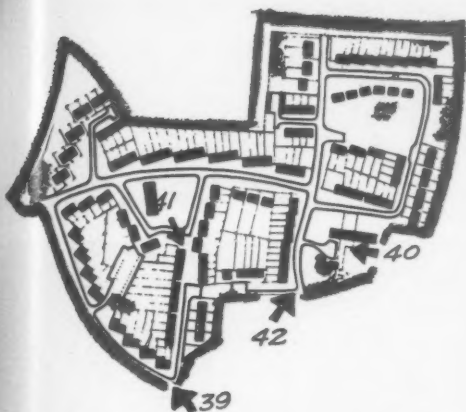
# **Primary School at Tanys Dell**

Architects: Richard Sheppard & Partners.

38, entrance to infants' department. The school is for 240 infants and 320 junior children. It was designed in collaboration with the county architect for Essex County Council and completed in 1952. Construction: load-bearing brick work.



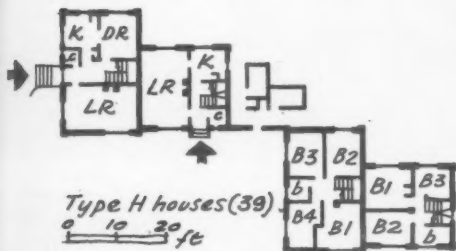
38



## **Area 3, Mark Hall Moore and The Lawn**

Architect: Frederick Gibberd.

The west of this area, overlooking the landscape valley, is designed as a series of linked T-shaped blocks, 39, to give a serrated but continuous wall to the space and to give a progression of gable ends when driving along the roads.

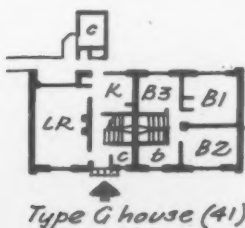


39



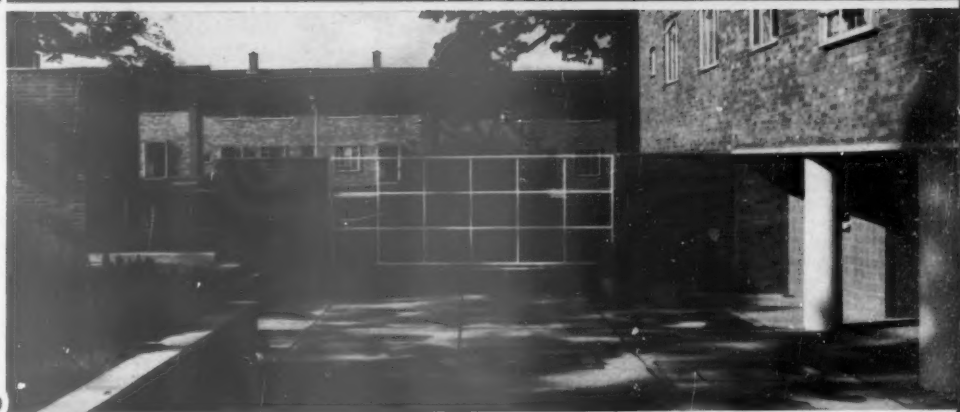
Small internal closes are formed by the dwellings, 40, and in one of these is placed a three-storey flat block. A tall flat block, 42, is placed on the east of the site to break the skyline from the adjacent A.11 main road.\* It is related to a three-storey flat block and nine large oak trees.

\*See AR, September, 1951, pp. 154-161.



Type G house (41)

39



40



41

42

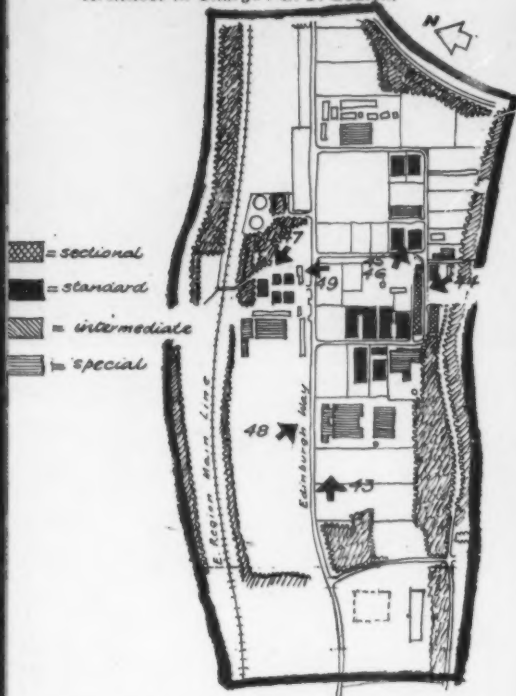
# **East Industrial Estate**

Architect-Planner : Frederick Gibberd.

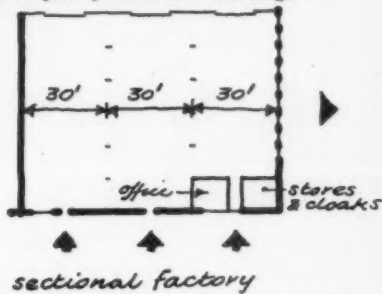
Executive Architect : Victor Hamnett.

Senior Architect : S. S. Rank.

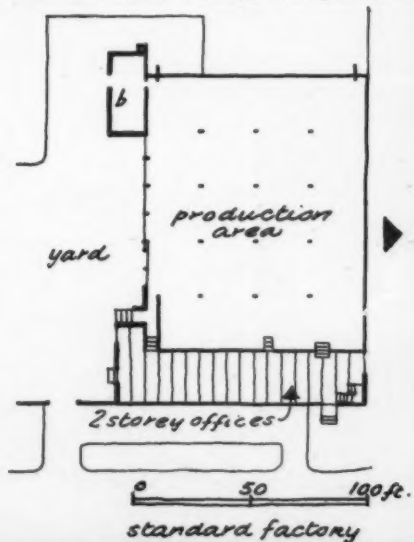
Architect-in-Charge : G. T. Goalen.



The East Industrial Estate, known as Templefields, is a rigid rectangular grid superimposed on the landscape, 43, as this provides the most suitable sites for the large boxlike character of contemporary industrial buildings.



The Estate provides some 150 acres of factory sites. It is developed by four main types of factory: Special, designed to the manufacturer's own requirements by his own architect or by the Harlow Development Corporation, 48. Standard factories, 45, consisting of a single-storey production area of about 14,000 sq. ft. with a two-storey administration block designed and built by the Corporation and let to the industrialist—although the plan is a



43



44

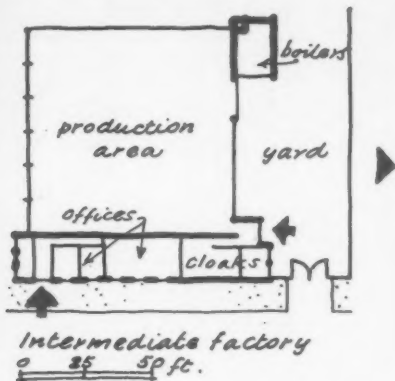


45





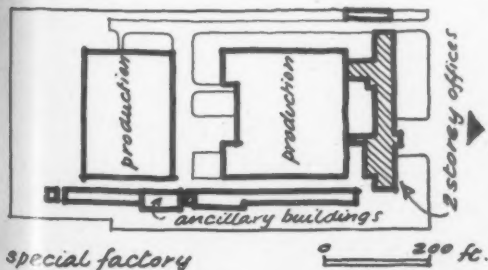
standard one, variations have been made to suit the different manufacturing processes and different structural systems have been employed. The sectional factories, 44, are single-storey structures with an area of about 2,000 sq. ft. which are let as a single bay or a series of bays for smaller firms. The fourth type, the intermediate factory, 47, of 6,700 sq. ft., was developed at a later stage owing to the demand by industrialists for a factory intermediate in size and amenity to the Corporation's Sectional and Standard factory. Apart from the factories, the Estate contains the town's railway goods yard—on the north-east of the spine road; the gas-holder, fed by high-pressure mains from the regional gas works, and one of the principal electrical substations. Since the area is an integral part of the town and not a trading estate a large centre with recreational facilities was not required, but a small group of five shops, 49, is located on the centre of the spine road. It is hoped that the centre will later have a public house, and the possibility of an industrial health centre is being considered.



As only a guess could be made of the type and size of factories that would come to the new town, the Estate was developed by means of a spine road running east to west down the heart of the site, and from this rectangular super blocks were set up as required.

The largest factories such as The Standard Telephones & Cables Ltd., 48, are placed on the spine road as here the scale is largest, and smaller specially designed buildings are placed on the perimeter of the Estate on irregular sites.

Standard and Sectional factories are ranged on the frontage of the super blocks leaving a space in the heart of the plan for expansion. The office blocks face the road and are ranged as closely as possible together to provide a series of street pictures with the back areas, which are inevitably untidy, shut out of view.



46



47



48



49



## RESERVOIRS

Large areas of water in a landscape can be a great scenic asset; thus water collection and storage presents great opportunity. More often than not, the opportunity is completely mishandled. As the larger reservoirs are nearly always sited in wild country the problem of their design demands sensitive handling since there are all too few wild areas left in Britain.

Inevitably, the essential character of a landscape of lake and mountainside demands either that the hand of man shall pass unnoticed or else be bold, clean and, very important, not destroy the existing scale. Lapses into prettiness or vulgarity stand out as an immediate affront.

The intrusion of ponderous municipal building into an otherwise wild landscape (1) is a typical outrage on the scenery, which completely destroys its remote, primitive atmosphere. To obscure all view of the water by thick funereal clumps of black conifers (2) or to plant them in an artificial manner with regular spacing along the water's edge is another. To bar the immediate foreground by a forbidding municipal railing which says 'Keep Out' is a third.



Sylvia Crowe and Kenneth Browne

# Reservoirs

The vital need for adequate water collection and storage in this country is responsible for ever increasing canalization of the waters of natural streams and bogs. This has caused major geological changes but, in addition, the diminution of streams and waterfalls is a very definite scenic loss. Can we consider that the reservoirs have given the landscape a compensating advantage? Theoretically these great sheets of water should form magnificent elements in every type of country. In the case of Lake Vrynwy, parts of the Elan valley complex, and, in lowland Britain, the Aldenham reservoir, they have realized their potentialities. But sometimes by reason of genuine technical difficulties, or, more often, through lack of understanding and vision, reservoirs either make no contribution to the landscape or fall far short of what they might achieve.

The most famous complex of reservoirs in the world is probably that of the T.V.A., but to use these as an example of what may be accomplished is to ignore some very real technical difficulties. The chief use of the T.V.A. reservoirs is for the storage of water for irrigation and the collection of a water-head for the provision of power. These uses allow a freedom of public access which would be dangerous in the case of reservoirs used for the storage of drinking water. This need to keep the water uncontaminated lies behind many of the missed scenic and recreational opportunities in this country; it is the reason for the fencing, of varying degrees of repellence, and, in some cases for the total prohibition of access even to the gathering grounds. Another difference from the T.V.A. is in scale. In the larger setting, the ancillary buildings and machinery, if well designed, can fit into the landscape without challenging its grandeur. But in the small scale mountains of the



British Isles these constructions often take on an undue weight in the general scene. For the same reason details which would be lost in the grander landscapes become features of importance. For instance, an unsightly shore line revealed by the rise and fall of water level, essential in any storage reservoir, can be sufficient to mar the whole appearance of the lake.

These difficulties can be at least partially overcome.

With proper precautions, it has been found that total prohibition of access is seldom necessary.

The ancillary constructions can be kept subordinate to the general scene by simple design, careful siting and the use of landform and planting to tie them into the surrounding landscape.

The harsh margin built of exposed concrete or stone blocks can be replaced by a natural shore, partly by siting the reservoir so that it lies naturally within the landform, instead of taking an arbitrary shape arrived at by blasting away headlands and filling hollows, and partly by allowing the water level to rise and fall against gently sloping shingle beaches in the bays, and sheer walls of natural rock on the headlands.

But even more disturbing than insensitivity in the engineering works are the misguided efforts at amenity which build round islands in unnatural positions, plant garden groups of rhododendrons and thujas on wild mountain sides, and dress up honest dams with minarets and cupolas.

Worst of all are the black spiked railings, ugly, urban and ubiquitous.

But if in the hill-lands these reservoirs require only sympathetic handling to make them into a landscape of lakes, lying naturally cupped in the hills, a very different problem is set by the storage reservoirs which abound in the river valleys round London. On the map these appear as an exciting complex of great sheets of water. In fact, seen from ground level they are a series of harsh square embankments, surrounded by fences of varying degrees of repulsiveness. The embankments are unavoidable, for the water is stored above the level of the surrounding ground. The fences reflect a genuine need under these circumstances to protect drinking water in a densely populated area. Can the reservoirs be made to play any part in the landscape? From near at hand, contouring the outer sides of the retaining banks and planting with subjects whose roots would not interfere with the clay core could transform the paths which often lead between the reservoirs into pleasant walks, although the water would in most cases not be visible. But the value of distant views of the water from high ground can be seen from certain back streets in Chingford and to better advantage from the flats lately built at Seven Sisters. With the prospect of higher buildings, great areas of London, otherwise lacking in open space, could be given views as spacious as the seaside.

## design problems

**margins** often consist of a hard concrete or stone ramp, square cornered and fringed with dark conifers, 4. All is artificial, but weakly so, and no attempt is made to come to terms with the countryside beyond. In other cases, where advantage has been taken of the contours, the margin may appear to be perfectly natural and the planting goes back in depth to link with the surrounding hills, 5.

4, 5

**filter beds** and their associated buildings cannot be avoided but the black municipal railings which go with them can and the approach to many reservoirs is ruined by them, 6. Suitable planting can be used to assimilate the buildings and clutter, whilst fencing should only be used where absolutely necessary and then be either in local materials, 7, or else set back from the road behind planting.

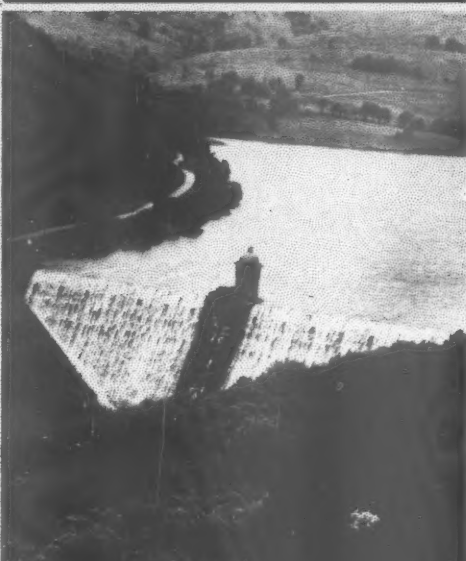
6, 7

**bridges** are often extremely clumsy and 8 is better than many, but it is surely time that some exciting forms in steel or concrete, 9, were seen in this connection.

8, 9

**dams** are frequently treated in a whimsy and incongruous manner, quite out of harmony with the setting, 10. A clean piece of engineering, 11, can be a real contribution by man to the landscape. + instead of —.

10, 11





A landscape of lake and mountain will not tolerate prettiness. Man must either make a bold contribution to the landscape or his hand must pass unnoticed. The Elan valley reservoirs, for instance, provide many examples of incongruous intrusion in a wild landscape.

**congruity** The upper Elan reservoir lies naturally cupped in the bare hills and civilization seems remote, 12.



12

... yet only  $\frac{1}{4}$  mile farther down the valley the scene changes considerably, 13.

**incongruity** The hills of the previous photograph still form the background, but the foreground is all man made—the contrast is not a pleasing one for the intrusion is pretty and trivial; the mosque topped dam, grouped conifers, round blobs of rhododendron bushes and white painted fence, bring an Ideal Home garden to the Welsh hills.

From  $1\frac{1}{4}$  miles lower down the valley the view of the falls is almost completely blocked by a misplaced amenity in the unnatural shape of a round island man made and packed solid with black conifers, 14. The trees crowd, like survivors on a lifeboat, in contrast to the sparsely planted hills around, making the whole scene ridiculous.

In 15, another mosque-like tower turns what could be a fine view, with its contrast of falling water and massed trees, into a pretty stage scene.

In several parts of the Elan Valley



13



14, 15





16

we are confronted by the most uninviting scenery, 16, where crude concrete and wire fencing and massed conifers create



17

a forbidding atmosphere in contrast to the attractive and apparently natural lakeside scenes farther along the valley, 17.



18

### **urban storage**

generally suggests a landscape of harsh embankments and prison railings with no view of the water, 18. However, by contouring embankments and planting them naturally with gorse, broom, and hazel, and by keeping railings back from the footpath, and masking them by planting, the landscape could be transformed, 19.

From high level these reservoirs provide a feeling of spaciousness and in siting tall buildings this should be borne in mind. The view from the LCC flats at Woodberry Down, 20, shows the lakeland of London which no one on the ground can see.



19



20



1, the entrance from the north-east.

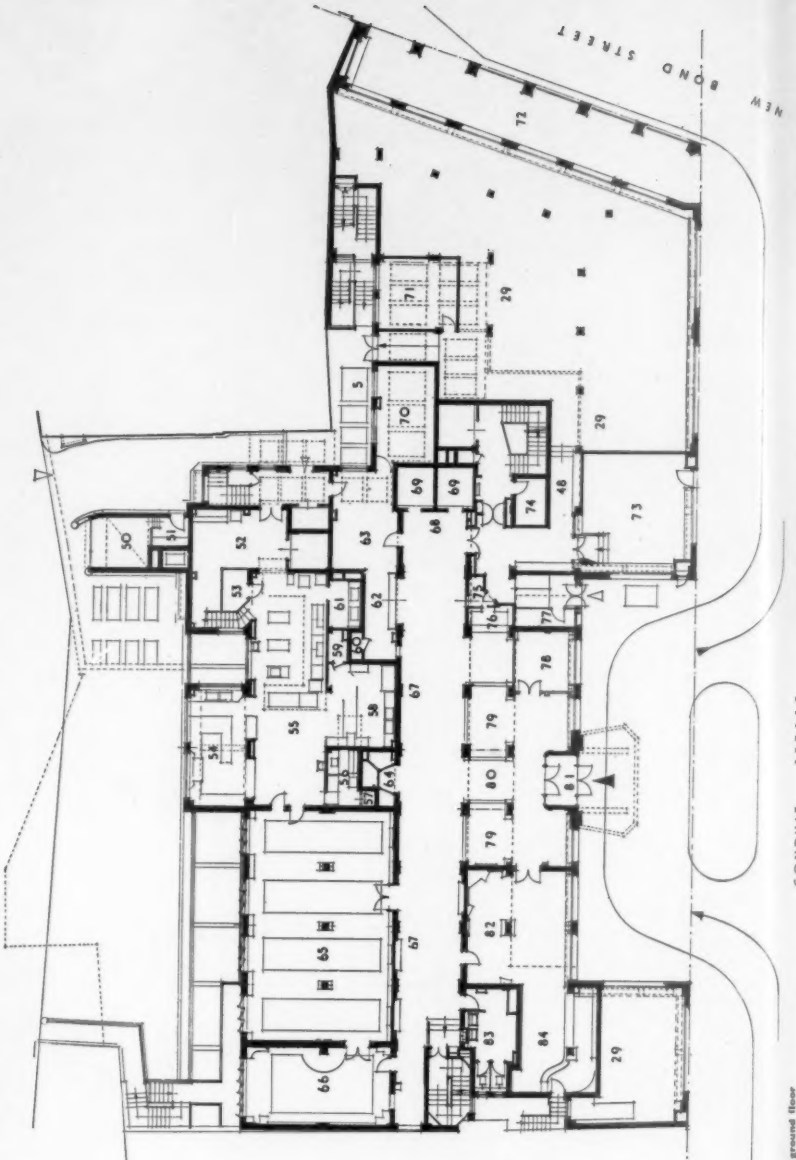
# **HOTEL IN BOND STREET, LONDON, W.1.**

**ARCHITECT: MICHAEL ROSENAUER**

The Westbury Hotel on Bond Street and Conduit Street is the first hotel to be built in London for over 20 years. Though owned by the Pearl Assurance Company it has been built specifically for the lessees, the Knott Hotels Corporation of America, who will run it primarily (but not exclusively) for the use of Americans staying in London. From the planning point of view the hotel differs from the pre-war hotel type, chiefly in the development of the idea of the bed-sitting room and of room service. Thus, though there are 219 bedrooms, the dining room accommodates only 90, and the area of public rooms is proportionately small. Part of the kitchen is devoted exclusively to room service: food being carried from there to the bedrooms, via a service lift, on specially heated trolleys. The public rooms, but not the bedrooms, are fully air-conditioned. Each bedroom has its own bathroom. The structure is of reinforced concrete clad on the main elevation with 9-inch brickwork and 3-inch Portland stone—which on the ground floor is replaced with Roman stone and at plinth level with Aberdeen granite. All external windows are of aluminium.



typical upper floor



ground floor



2, by night, from the north-west.



# Hotel in Bond Street, London, W.1.

## key

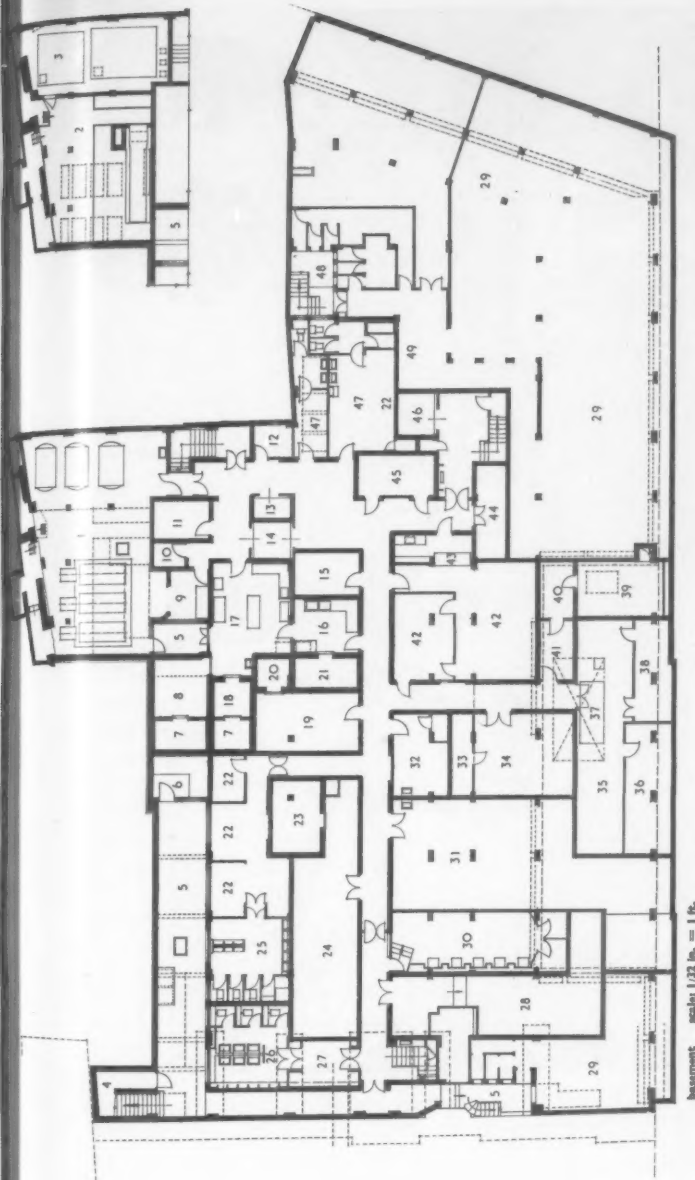
### basement

1. boiler house.
2. pump gallery.
3. paint store.
4. paint store.
5. area.
6. refrig. plant room.
7. deep freeze.
8. meat store.
9. ice making machine.
10. pneumatic tube.
11. water softener plant.
12. silver cleaning room.
13. goods lift.
14. service lift.
15. tel. equipment.
16. veg. preparation.
17. vegetable shop.
18. fish store.
19. dry goods store.
20. dairy store.
21. veg. store.
22. lockers.
23. cold room.
24. laundry.
25. laundries' male staff.
26. gentlemen's toilet.
27. shoeshine.
28. air conditioning plant room.
29. letting space.
30. barber's shop.
31. linen store.

32. engineer's office.
33. workshop.
34. furniture and trunk store.
35. china, glass and stationery store.
36. refrig. plant room.
37. ejector room under.
38. motor and inter.
39. transformer room.
40. battery room.
41. intake room.
42. staff dining room.
43. server.
44. dry refuse sorting.
45. lift well.
46. luggage lift.
47. staff and goods entrance.
48. corridor.
49. corridor.

50. refuse bins.
51. bin wash.
52. room service.
53. chef.
54. wash-up.
55. kitchen.
56. wine service.
57. cold storage.
58. hors d'oeuvres.
59. cold store.
60. pot wash.
61. reception and cashier.
62. office.
63. telephones.
64. restaurant.
65. tel. room.
66. billiard room.
67. shift lobby.
68. pass lifts.
69. office.
70. manager's office.
71. arcade.
72. S.O.A.C. booking.
73. tickets.
74. parcels and baggage.
75. bookstall.
76. luggage.
77. private lounge.
78. lounge.
79. lobby.
80. bar.
81. hotel entrance.
82. cocktail lounge.
83. ladies' cloak.
84. bar.

- typical upper floor plan
85. room service.
  86. single bedrooms.
  87. double bedrooms.
  88. valet room.



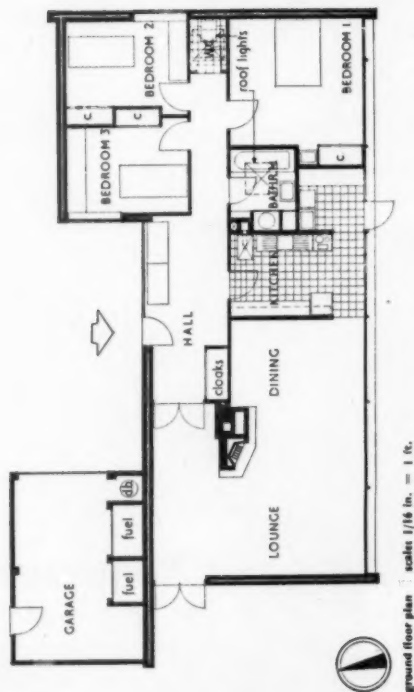
## HOUSE AT CHORLEY WOOD, HERTS.

ARCHITECT: C. B. RATCLIFFE

This single storey house at 49, Grovewood Close, Chorley Wood, was designed by the architect for his own occupation. The main axis is east to west, and the south wall is almost entirely glazed to gain maximum sunshine. The house is partly steel framed, and solid external walls have an outer skin of 2-inch Dutch facing bricks and an inner skin of 4 1/2-inch breeze blocks. Floor finishes in the living room, hall and bedrooms are of dustproof cement screed. Heating throughout is by floor panels consisting of iron pipes embedded in the 4-inch

3. the garden façade from the south-west.



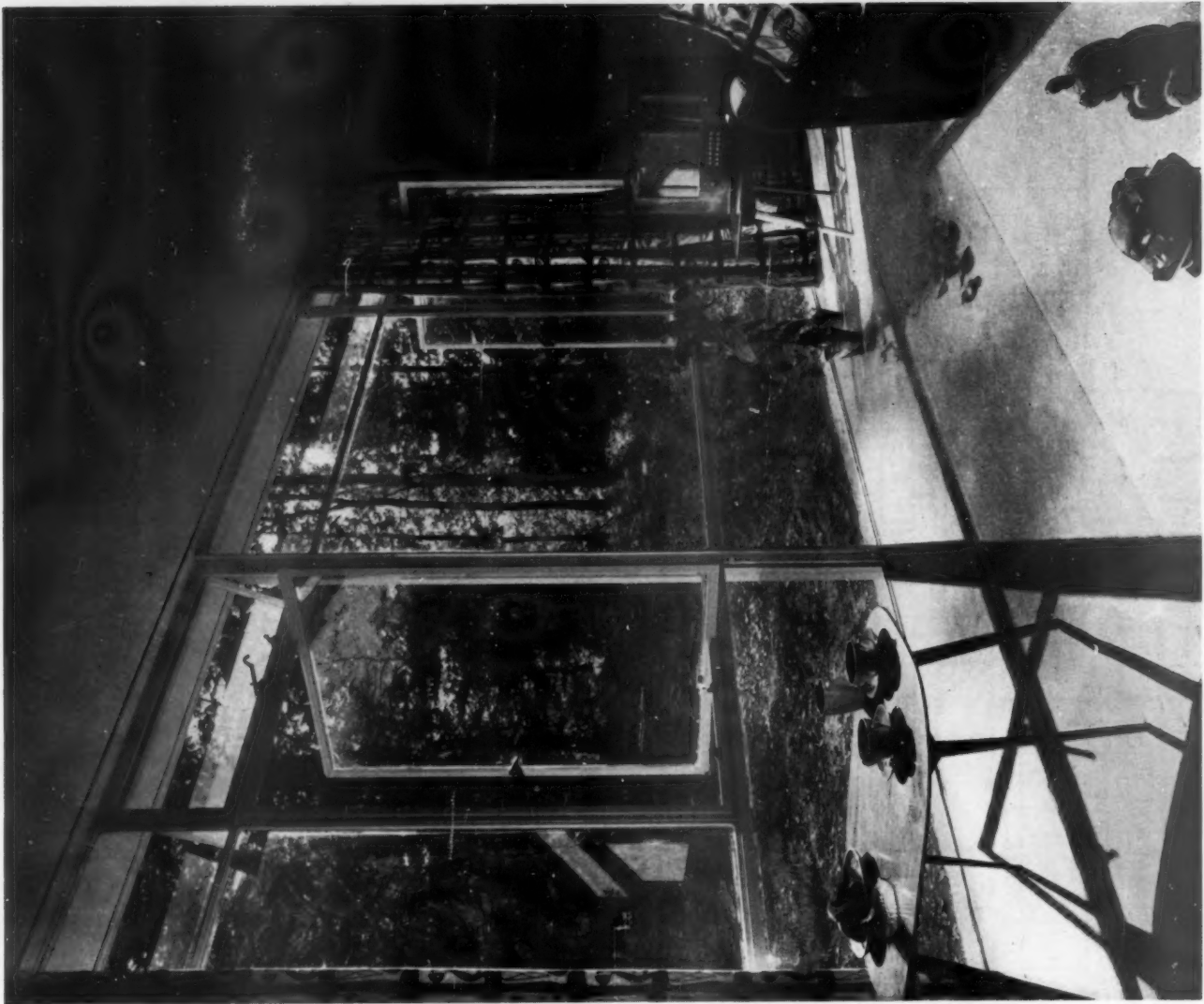


### House at Chorley Wood, Herts.

thick concrete foundation slab, with supplementary wall panels. To form a heat barrier around the perimeter of the building for the floor slab, 1-inch thick cork slabs 2 feet wide were stuck to the site slab with hot bitumen, and a 6-inch upstand of cork was also provided.



5, the main entrance at the north. The garage is on the right.



4, the south wall of the living room.

## EDITORS ONLY

[It has not been part of the policy of THE ARCHITECTURAL REVIEW to publish 'leaders' or to provide its editors with the opportunity to air their opinions, suggestions and/or grievances—other than in full-dress articles. This column is provided so that they shall henceforth have that opportunity, each note being signed to show that it is the responsibility of that particular editor and none other.]

### PRESTIGE EXHIBITIONS

The absence at international prestige exhibitions of officially sponsored exhibits from Great Britain has received some airing in the press. In a letter to *The Times* of January 6, Sir Kenneth Lee explained that 'The Board of Trade is responsible for our information stands at Trade Fairs, the British Council for exhibitions of fine art,\* and a British Pavilion at a large international exhibition is co-ordinated by the Central Office of Information under the authority of the Foreign Office. But no one appears to be responsible for prestige exhibitions of British goods abroad.'

The most conspicuous gap is always at the Milan Triennale, where large and lavishly arranged exhibition rooms house the products of France, Germany, the Scandinavian countries and so on, and where the British, lacking official support, are represented, if at all, by valiant private enterprisers whose resources are inevitably more restricted than those of governments, and whose efforts tend therefore, however good in detail, to look pathetically modest by contrast.

That the exhibition at Halsingborg, Sweden, which opens next month, will include a British section in scale with those of other countries is still not due to official help, but this time to organized private enterprise, inaugurated by Sir Kenneth Lee's letter referred to above.

At present there is no sign that officialdom is arousing itself to correct this unfortunate state of affairs. The baby is still handled like a hot brick. 'No money' cry the Board of Trade, the British Council and the Foreign Office, 'outside our terms of reference' the Council of Industrial Design. In fairness it must be

\* Unless special funds are made available to them for exhibitions which include industrial design, as was the case recently at Zurich and Bulawayo.

said that the last-mentioned body is always ready to offer help whenever and wherever it is permitted to do so; the organizing of the Halsingborg exhibit, for instance, is being undertaken by the COID.

Why, then, cannot the terms of reference of the COID be enlarged to include prestige exhibitions abroad? Since its *raison d'être* is propaganda for better design in Britain, it would seem both logical and efficient that propaganda abroad of the improved standards it has helped to create should also be its responsibility.

Ian McCallum

## BOOKS

### WREN: SHORT AND LONG

SIR CHRISTOPHER WREN. By John Summerson. Collins Brief Lives series, 8s. 6d.

WREN, THE INCOMPARABLE. By Martin S. Briggs. Allen and Unwin, 35s.

By current standards, both in literature and psychology, the *Brief Life* is an unlikely size and shape for a biographical study to take, yet it is almost the ideal instrument for the biographer of the creative artist, whose works, unlike the empires of the sword and pen, enjoy a material persistence. The model is Vasari, and although there is missing from Mr. Summerson's book that sense of living under the long shadow of departed giants—Leonardo and Michelangelo—which animates the triumphant gloom of Vasari, he is able to compensate with a sense of balance and a psychological subtlety which the Aretine could not command. This is Wren seen plain, as well as in the round, and his character, both as man and as architect, is examined in the light of the available evidence, rather than in terms of some extraneous standard of judgment. The increased mobility of mind which this affords makes it possible to put the whole of this complex personality into the picture, and to attempt to explain those alterations of temperament which turned the boy genius of mathematics first into an astronomer, then an anatomist, then into a structural engineer, and, with ripening years, into a genius of architecture.

These changes of mind are the nodal points of his career, and must be dealt with convincingly—it will no longer suffice to offer us the multi-headed *zeitgeistlich* simulacrum of the 'all round genius of Baroque science' complete with membership of the Royal Society. Mr. Summerson gives us strong hints of a changeable personality looking for a field in which to 'make a figure in the world' and finding it in the area which had been barely

cultivated since Inigo Jones's death—and if this figure of a Baroque adventurer of the intellect is not quite respectable from some 'historical' points of view, it is infinitely more probable from a human and psychological one.

Mr. Summerson has conjured up his mighty ghost in an easy and comprehensible manner—if only one could say as much for Mr. Briggs! His book is an accumulation of documentary sources almost unrelieved by exposition or interpretation. As a florilegium of relevant quotations from and about Wren, it is very useful, although it contains some gratuitous historical inaccuracies, but having read it one would still have to be Mr. Summerson to draw from it a clear picture of its subject. By means of a few ingeniously selected plans, and a half page of apposite description here and there, the author of the *Brief Life* is able to give a lively generalized characterization of Wren's architecture, but this Mr. Briggs, in his unquestioning adulation, fails to do in much greater bulk. Unable to illuminate his material with any opinions of his own—even that of Wren's incomparability he owes to John Evelyn and Nicholas Hawksmoor—he is doomed to lie buried beneath his sources, a victim of his own industry. A comparison of these two architectural biographies could teach some salutary lessons to those intending to write Lives—architectural or otherwise—and a study of Mr. Summerson's book is essential to anyone who desires a better insight into the seventeenth century, and the greatest of the architects who lived to see the century out.

Reynier Banham

### THE AMERICAN DESIGNER

SURVIVAL THROUGH DESIGN. By Richard Neutra. Oxford University Press. New York. \$5.50.

In this long book, Mr. Neutra has collected and refashioned a number of essays on the subject of design written over several years. His essential thesis is that the human race will be overwhelmed by the uncontrolled advance of technology unless much more experimental information about man's reaction to his environment is obtained and imaginatively used by architects. To have the ideas of so sensitive an architect is extremely valuable and few people would quarrel with Mr. Neutra's aims, but the book is fairly heavy going, particularly for English readers, being in the learned written style of American with its strange mixture of slang and impossible abstractions. It is somewhat surprising, for instance, to meet St. Ignatius Loyola as 'the sixteenth century representative of practical reflexology.' The book is also quite without construction; the same ideas are expounded over and over again and no effort is made to impose a logical sequence.

Mr. Neutra is at his best when he is nearest to architecture—his description of the construction of the Golden Gate Bridge is



excellent—but unfortunately he is far away for most of the time. All the main modern preoccupations: psychology, physiology, biology, sociology come in, but they do not seem to have been assimilated into any consistent world-view. There is also a good deal of very doubtful history. Mr. Neutra seems obsessed by the insecure position of the architect in the United States and determined that he shall be given, as a result of physiological experiments, some irrefutable and objective design-data which will convince even the roughest politicians and business men. He advocates fact-finding about human behaviour with almost religious intensity, but it is hard to believe that any very significant work of art could spring from the statistical comparison of 'quantitative analyses of the end products of glandular activity.' But, of course, it is not at the typewriter but at the drawing board that Mr. Neutra will make his ideas prevail.

J. H. V. Davies

### NEO-CLASSIC CHARMER

ANGELICA: A BIOGRAPHY OF ANGELICA KAUFFMANN. By Adeline Hartcup. Heinemann. 21s.

Angelica Kauffmann presents an interesting problem to the historian of taste. Her paintings were almost universally admired in the eighteenth century. She started without any advantage of birth or education, yet she was welcomed with open arms by the greatest academies of art as well as by the highest ranks of society, in an age when society did not readily accept artists unless their achievement was outstanding. Why then do her works appear so insipid today?

Unfortunately Mrs. Hartcup throws no light at all on this problem. She describes her book as 'the portrait of an artist,' adding disarmingly that she has no intention of assessing Angelica's art, since she is concerned only with those 'nuances of personality, mood and background by which a portrait brings its subject to life.' Unfortunately Mrs. Hartcup's acquaintance with her subject's background—which was, after all, the artistic life of London and Rome—is so superficial, so obviously 'worked-up' for the occasion of this biography, and sometimes so inaccurate, that no living portrait of an artist emerges at all; only some disconnected notes about a woman of charm. Even where her heroine is concerned Mrs. Hartcup is far from reliable. Her reference to 'Angelica's paintings' at Mrs. Montagu's house in Portman Square, 'said to have been done in 1781' when the house was built, is more unfortunate than other such slap-dash statements, because she rests a discussion of late eighteenth century taste upon the point. It is known that these paintings were the work of Biagio Rebecca and date from considerably later than Stuart's original decoration of the house.

Amongst Angelica's earliest successes was her portrait of Winckelmann, painted at Rome on the eve of the publication of his *Geschichte der Kunst des Alterthums*. This really sets the key-note of her art. For the publication of that book proved a turning point in the history of neo-classicism, and it is as a popularizer of neo-classic idiom that Angelica's immense success was achieved. Those artists who were her greatest admirers, Fuseli, Benjamin West, Goethe, and even Reynolds, were all protagonists of neo-classicism. They were clearly not fools led astray by a pretty face or a charm of manner; they

merely exemplify the type of weakness to which even the most informed contemporary judgment is prone. There can be no doubt that Angelica's feeble pastiches of classical themes echoed for them with a genuine note to whose overtones our ears are no longer attuned. A serious study of Angelica's art against the background of neo-classical theory and practice should prove illuminating to both. Mrs. Hartcup's book adds nothing to our knowledge of either.

Francis Watson

### Shorter Notices

DAS PUNKTHAUS IM EUROPÄISCHEN WOHNUNGSBAU. By E. F. Sekler. *Abhandlungen des Dokumentationszentrums für Technik und Wirtschaft*, No. 16, Vienna 1952.

Dr. Sekler is known to readers of THE ARCHITECTURAL REVIEW for his studies in the history of the staircase. An article on the subject appeared in the REVIEW for May, 1951. He has now completed a book on Sir Christopher Wren which will be published in Vienna. It is rare for architectural historians to research at the same time into topical problems of building, and so Dr. Sekler's account of point blocks from Drancy to Harlow deserves special notice. It is mimeographed and paper bound, competently done, illustrated by many plans and provided with an English summary.

N.P.

CASTLES OF GREAT BRITAIN. By S. Toy. Heinemann. 25s.

In 1939 Mr. Toy published a brief account of European castles. He has now followed this by a more detailed study of British castles. Comparisons will naturally be made with Mr. Braun's book of similar content which came out in 1936 and with Professor Hamilton Thompson's scholarly volume of 1912. The latter is still indispensable, for instance for the bibliographical footnotes. It would indeed be a great addition to the value of Mr. Toy's book if in a second edition he would fully annotate his statements. We are in urgent need of a bibliographic summary of literature on castles since Hamilton Thompson. Mr. Braun has the better photographs and writes for a wider public, but Mr. Toy's drawings of the plans of castles are extremely valuable. His treatment of the Anglo-Saxon centuries will no doubt be challenged. This is not the place to do so. What may disappoint the general reader is the arrangement which Mr. Toy has chosen. It amounts over long stretches to a catalogue with castle following castle, and no more than an occasional paragraph or two every ten pages or so to link up the list. There is no distinction for instance between hall-keep and tower-keep, between halls on the ground floor and on the upper floor, between the Harlech type and the Bodiam Lumley type and so on. The dating of the halls at Stokesay (c. 1240) and at Haddon (early fourteenth century) is surely fifty years too early.

N.P.

GOTIK OHNE GOTT. By Alfred Kamphausen. *Matthiesen Verlag Tübingen* 1952.

Gothic without God is the title chosen for a small book dealing with the significance of the Gothic Revival. The material, especially on the English side, is far from complete, but interpretations and analyses (in the German art-historical tradition) will be of interest to readers in England,



Barn at Niendorf Manor near Lübeck, c. 1820, now demolished. Here is an example of how remarkably twentieth century the early nineteenth could be in Germany and especially the circle around Schinkel.

and there are also plenty of German works which have so far remained unknown over here, for instance the remarkable barn formerly standing at Niendorf near Lübeck and illustrated here. It is dated by Dr. Kamphausen c. 1820. N.P.

### CRITICISM

#### GAIETY RECONSIDERED

*The recent competition (judged in February) for a new office block on the site of the Gaiety Theatre in the Strand, London, for the English Electric Co. was limited to nine of the more enterprising of our established architects.* It is never easy to draw general conclusions from the results of open architectural competitions. The entries which seriously represent the ideas and convictions of the profession are swamped by the productions of the lunatic fringe, of the aspiring student whose work reflects nothing but his own inexperience and of all those competitors who hope that a façade of banalities and clichés will be accepted as a substitute for the proper analysis of the problem.

A limited competition is another matter. The designs come from architects who are chosen because they are expected to have something to contribute, and their solutions often throw light on the various and conflicting directions in which architecture is moving. So it proved in this case. Banalities and clichés were by no means absent, but along with them went several ideas and experiments that provide a real contribution to the problem set by the big office building on a crowded city site. Another reason for welcoming the results is that the winning design was undoubtedly the best.

The site posed several difficult problems, especially those concerned with the relationship of a new city building to its neighbours of different periods and styles,



1, the winning design by Gordon Tait, in the English Electric Company offices competition. 2 and 3, the two designs commended by the assessors, by Basil Spence and Adams, Holden and Pearson respectively.

and with the degree to which it is desirable to design with an eye on future rebuildings, ignoring any unbalance of effect that may be created until these take place. For this site, at the corner of Aldwych and the Strand, is now undergoing considerable changes: in particular, a traffic roundabout is to be created at the junction of Wellington Street and the Strand which will demand an imposing scale in the buildings surrounding it if the enlarged open space is not to dominate the architecture (instead of vice versa, which should be the case in a town).

The ten-storey tower of Mr. Gordon Tait's winning design, 1, rising behind a lower block which, placed at right-angles to it, presents a short vigorously fenestrated face to one side of what will eventually be a pentagonal open space, promises to do this effectively. In its impersonal contemporary fashion it will provide as interesting a termination of the western Strand as Norman Shaw's rounded, colonnaded exercise in late Victorian baroque, which it will replace.

Another problem is how much notice to take of an established lay-out when its quality and style are not such as to deserve perpetuating at all costs. The triangular site forms part of the symmetrically planned Aldwych-Kingsway lay-out, and on paper it might seem undesirable to break the line of the crescent, which is what the winning scheme with its open type of planning does. But in practice the Aldwych island site does not read at all effectively as a unified piece of formal planning. Owing to the varied skylines and styles of architecture, and the breaks that



occur in the southern frontage of Bush House, the view along the Strand past St. Mary's church is romantic rather than classical, and even the view up Aldwych (this is the side of the winning design depicted in 1) should be improved rather than disturbed by a vigorous upstanding block at its western end.

Efficient use of the site as an office building, moreover, also demanded an open plan rather than a plan that followed the existing street frontages. In their report, the two assessors of the competition, Sir Percy Thomas and Mr. J. Murray Easton, comment on the winning design thus:

'The rectangular block on the axis provides the most satisfactory solution to the problem—it avoids the drawbacks of an internal courtyard and long communicating corridors, and the setting back of the central block must reduce the noise of traffic in the offices. . . . In form and mass it is simple and impressive. . . . On the ground floor a large entrance hall, approached either by foot from the Strand or by car from Aldwych, links up directly with the existing

entrance hall in Marconi House' (the other Norman Shaw building next door, of which the new building is, in effect, an extension) 'and the two new lifts being adjacent to those in the existing building, become part of a well-placed vertical circulation. . . . All the offices are well lighted and suitable for dividing up by movable partitions.'

It is surprising that of the nine competitors, five nevertheless sent in designs built up round the perimeter of the site, usually with internal courtyards of the kind it is surely agreed is obsolete for buildings of this kind. Presumably their authors were hypnotized by the existing building lines which, as I have said, look on paper as though they should not be broken into. Two designs were commended: that by Basil Spence, 2, and Adams, Holden and Pearson, 3. The former is a vigorous attempt, even more emphatic in character than the winner's, to live up to the scale demanded of this key site with its new traffic roundabout. Mr. Spence's spine block takes the form of an

almost isolated tower, with a windowless sculptured face to the Strand, joined to Marconi House by low linking blocks; also by single-storey shop windows, which latter seem to be the least satisfactory part of the scheme. They fill in the corners at the pedestrian's level, just where the open treatment of the site most needs to be made apparent to the eye.

The scheme by Adams, Holden and Pearson has the street frontages built right up to a height of eight storeys, enclosing a courtyard. The practical drawbacks of this type of plan are obvious, and the assessors point out that it involves two main vertical circulations instead of one. Its visual drawbacks are evident in the perspective, 3, the somewhat forbidding scale (note how it overpowers the classical buildings on the opposite side of Aldwych, seen at the extreme left of the picture) being aggravated by the use of cornices and other classical features, introduced, it must be assumed, so that the building should be 'in keeping' with its surroundings. It is an ironical fact that a cautious compromise with the style of adjoining buildings is generally more destructive in its effect than a clean breakaway from it.

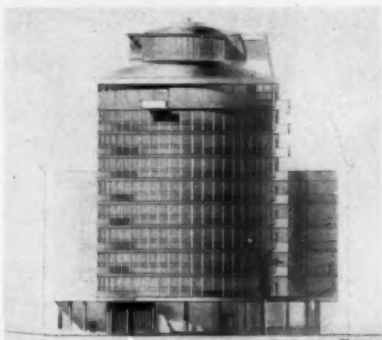
This comes out most clearly when we look at the effect of this design on the façade of Marconi House. The assessors comment that the authors of this scheme have obviously attached great importance to the integration of the elevations of new and old. This 'integration' consists in fact of carrying on the old cornice, window and parapet levels, with the result that the old elevation loses its identity by being merged into a watered-down version of itself. A notable virtue of Mr. Gordon Tait's winning design, and Mr. Spence's, is that they leave the old façade visually uncompromised, letting new and old serve as foils to each other. In particular, the decorated gable, which is the feature of the old building most typical of its period, is allowed to remain and to play its part with full effectiveness. The Adams, Holden and Pearson design emasculates Norman Shaw by doing away with the gable altogether.

The other scheme in which the building occupies the centre of the site is that of Messrs. Farmer and Dark, 4. All the accommodation is compressed into a 10-storey rectangular block past the flank of which the gabled end of Marconi House will be visible in the view from the west Strand: a neat enough solution which does not seem, however, to pay enough regard to the silhouette of the whole, an important consideration on this key site.

With the exception of Mr. Aberdeen's monumental circular tower, 5, in which too much in the way of convenience in



4



5



6

The remaining six designs submitted in the competition. 4, by Farmer and Dark; 5, by David d.R. Aberdeen; 6, by Louis de Soissons; 7, by Yorke, Rosenberg and Mardall; 8, by Michael Rosenauer; 9 by Farquharson and McMorran.

plan appears to have been sacrificed for the sake of the central idea, all the remaining schemes involve building up round the perimeter of the site. That of Mr. Louis de Soissons, 6, uses a more refined version of the Adams, Holden and Pearson idiom and is less overpowering in scale. The Norman Shaw gables peer somewhat unhappily over the parapets of the new building. So do they in Messrs. Yorke, Rosenberg and Mardall's design, 7, a straightforward, efficiently planned modern office block, a little lacking in character and with a splayed-out frontage towards the new roundabout which might give rather an awkward skyline when seen in perspective from any direction but straight in front.

The design by Mr. Michael Rosenauer, 8, seems to the writer to combine all the defects discussed above in reference to other designs, and to add to these a clumsiness of shape and proportion, a coarseness of detail and an emphasis on pretentious and meaningless ornamental



7



8



9

features which bring to mind the sort of architecture that is being put up in so many other parts of London in the name of modernity. It thus serves to emphasize the refreshingly high standard set by this competition as a whole.

The design by Messrs. Farquharson and McMorran, 9, is in many ways the most interesting of those which did not receive a commendation, especially for its original treatment of the old building, part of which is incorporated, as it were, within the framework of the new. The characteristic gables have gone, but this is an example of integration by a positive act of design, not merely by lining up some features of one building with those of another. The new utilizes the scale, texture and colour of the old to set off its own qualities, as all urban architecture should, since the building up of a townscape is a continuous process spanning generations. New and old, moreover, have been given jointly a new scale appropriate to the new breadth of their eventual setting.

J. M. Richards



## EXHIBITIONS

### PAINTING AND SCULPTURE

*The sculptors of the T'ang Dynasty, carving in the service of Buddhism, perfected the image of serenity, and in the T'ang exhibition at the Arts Council there was a stone head, probably of the Buddha's favourite disciple, which one could not afford to dwell upon too long, for its smile did not acknowledge the necessity of one's other engagements.* To Western eyes, the serenity of the great Buddhist images is more immoderate than the volcanic violence of the winged dragons in Korean tomb paintings, and one found oneself turning to the fine array of pottery tomb figures—the dancing girls and the prancing horses—for protection from the promise of Nirvana.

The T'ang horse—head tossing, off foreleg raised, game hanging from the saddle, 1, or, with off foreleg still raised, nibbling his own shoulder, or, with a long cloth hanging from the saddle, just standing—is so fascinating when centuries of burial have dealt harshly with the original colours, and the catalogue refers to 'vestiges of pigment,' that it is clear that its connections with the dead and its long sojourn in the 'underworld' play a part in our appreciation. These horses are wonderfully alive, and at the same time a bit phantasmal. The Chinese didn't set much store by them, and considered the

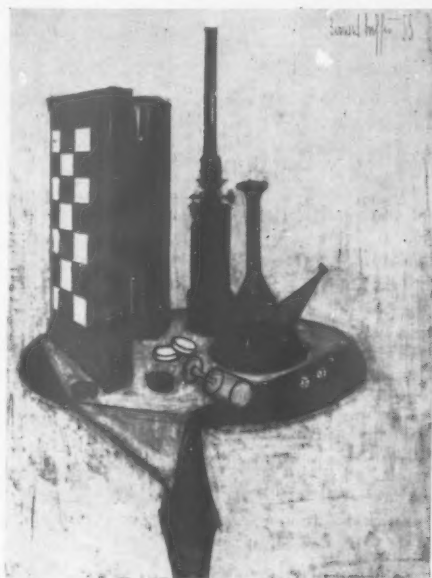


making of them to be a craft rather than an art, but it might be argued that the image that went into the tomb was not the same as the one that came out of it.

If, as it seems, the Chinese created

purified and abstracted forms for the contemplation of the living, and provided animated and realistic ones for the comfort of the dead, it is a division which offers no argument for our constructivists, for the subtlest work of the twentieth century is equivocal, as befits a civilization hovering between life and death, and Picasso's monochromatic 'Guernica' with its spectral clash of energies is its emblem and its masterpiece.

Bernard Buffet, whose art derives directly from 'Guernica,' is only twenty-seven years old, but, apart from Picasso, he is the most accomplished of living draughtsmen, and the *nature mortes* which he recently exhibited at Arthur Tooth and Sons make it evident that he has become one of the finest of living painters. His still life with a backgammon board, 2,



Painted in grey monotone with vestiges of colour, makes a virtue of anxiety. Out of the thinness of the objects, the confined space they occupy and the perilousness of their situation, Buffet has fashioned an image of what we call 'living on our nerves.' He offers neither consolation nor hope, but in presenting us with our predicament couched in terms of the utmost elegance he bridges the gulf between poise and tension, and gives the life we lead a kind of dignity.

Many excellent examples of the sculpture of Maillol have been on view at Gimpel Fils, but Maillol's conception of the nude has ceased to be impressive, for the time being, at any rate. He tried to make an art of monumental serenity by, so to speak, tidying up the forms of fine, strapping desirable girls, 3, but the results seem to occupy a limbo between the naked and the nude, and only the absurd and adorable pudding-basin hair-do keeps them in one's thoughts.

Josef Herman, too, tends to generalize



the figure without transforming it, and although his vigorous collection of drawings at Roland, Browse and Delbanco makes Maillol's drawings in sanguine seem slack and inert, his chunky stand-ins



for peasants and miners are no less monotonous than Maillol's modified girls. It is a fine rhetorical way of saying that peasants and miners are the salt of the earth, but its impact is reduced by each repetition, 4.

At the Marlborough's exhibition of works by the early twentieth-century masters there was a noble example of Braque's analytical cubism. In this phase of cubism, Braque and Picasso brought Western painting to the verge of mysticism, for they seemed to be on the point of finding the visual elements for a conception of diffused being. If, on the T'ang principle, we divided our art between the living and the dead, the Braque would be among the purified and abstracted works reserved for the living, and Kees van Dongen's 'La Chemise Noire,' 5, in the





same exhibition, is a painting that would undoubtedly alleviate the loneliness of the tomb for any gentleman who spent his youth in the first decade of the century.

Robert Melville

## ARCHITECTURE

### RELATIVE DIMENSIONS

*Students of architectural history whose knowledge is acquired solely from text-books seldom realise the relative scale of the buildings which they have to study.* In the drawing (right) the Great Pyramid of Cheops has been used as a sort of yard-stick for the purpose of comparison.

When viewed from a distance the Pyramid may give some idea of its magnitude, but it is only when standing close to it, perhaps with some Arabs and camels grouped about its base, that one begins to realize its real vastness. An even fuller revelation follows as one climbs up to the summit.

It has been calculated that about six million tons of stone were required for its construction, and that some hundred thousand men were employed for the work for a period of some twenty years. The area covered by the Great Pyramid is roughly thirteen acres.

**S. Peter's, Rome 1506-1626.** It will be seen that the elevation approaches in scale that of the Pyramid, and the titanic design requires close consideration. For

instance, the giant Order of columns and pilasters of the façade are over 90 feet in height, which is only some 7 feet less than that of Hadrian's column, or of the memorial column of Marcus Aurelius.

**S. Paul's, London 1675-1710.** As will be seen from the illustration, S. Paul's is far smaller than S. Peter's. It is worth noting that whereas S. Paul's had but one architect, S. Peter's had 13 in succession, and was about 120 years in building compared with the 35 years occupied with S. Paul's. Incidentally, the area covered by S. Peter's is about  $5\frac{1}{2}$  acres, and by S. Paul's about 3 acres.

**The Colosseum, Rome A.D. 70-82:** Upper storey added A.D. 222-224. As shown by the illustration, the Colosseum is well named, and it is interesting not only for its enormous size but also for the skill with which the engineering problems were dealt with.

**Florence Cathedral 1296-1462:** Giotto's Campanile 1334-1387. The illustration shows the great dome designed by Brunelleschi for the completion of the Gothic building. Its erection took place between 1420 and 1434, without the use of centering. The lantern was placed over it in 1462. The great size of this dome should be compared with those of the Pantheon, S. Peter's and S. Paul's. Giotto's Campanile was erected between A.D. 1334 and 1387, on the site of an earlier tower, and is 45 feet square with a height of 275 feet. It is crowned by an arched corbel-table; the original intention to provide a spire was not adhered to.

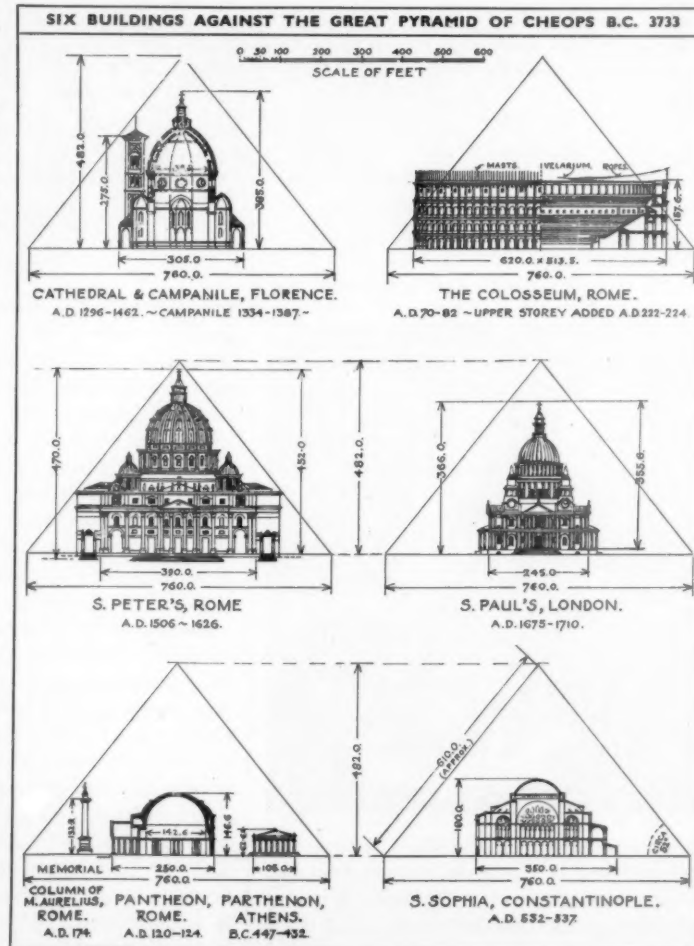
On the right, a drawing by George Scorer, who qualified as an Associate of the RIBA in 1895, and has been a Fellow since 1913, showing the relative sizes of six famous buildings depicted against the silhouette of the Great Pyramid of Cheops.

**The Pantheon, Rome A.D. 120-124.** The Rotunda was erected by Hadrian on the site of a temple built by Agrippa between 27 B.C. and A.D. 14. Later on, about A.D. 202, the portico of the older building was re-used and added to the Rotunda. As shown in the drawing, the huge hemispherical dome with its single unglazed lighting opening at its crown—has an internal diameter and height of 142 feet 6 inches. This compares with the 138 feet 6 inches diameter of the great dome of Florence Cathedral.

**S. Sophia, Constantinople A.D. 532-537.** This unique building, never subsequently imitated, remains for all time the masterpiece of the Byzantine style. Originally built as a church, it became a mosque after the capture of Constantinople by the Ottoman Turks in A.D. 1453, after which four lofty minarets were added, one at each corner of the mosque. (These are not shown on the illustration.)

**The Parthenon, Athens 447-432 B.C.** The drawing reveals the astonishing difference between the size and scale of this masterpiece of the finest period of Greek art and S. Peter's, Rome. Few students would realize that it would take over seven Parthenons, piled one on top of the other, to reach to the height of S. Peter's.

George O. Scorer



# SKILL

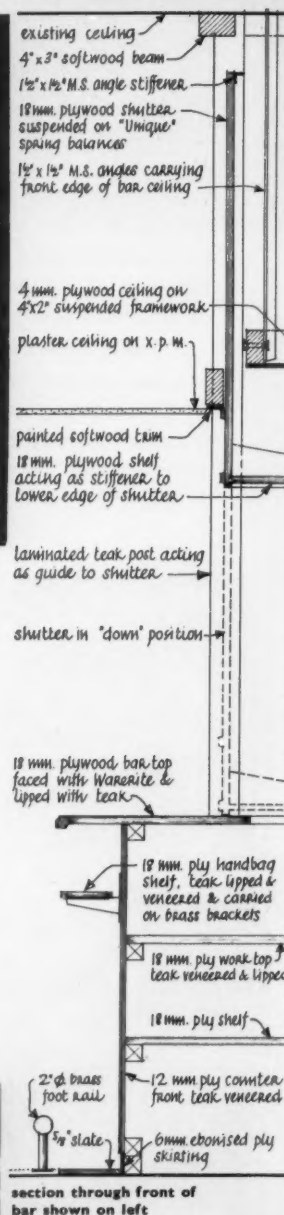
A MONTHLY REVIEW

OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

- 1 interiors
- 2 design review
- 3 techniques
- 4 the industry



1, view through the existing portico to the newly-designed entrance doors.



## 1 INTERIORS

### THE ROYAL HOTEL, CARDIFF

Architects: John Morton and Tom Lupton

The owners of this hotel, Messrs. Ind Coope and Allsopp Ltd.—proprietors also of the new Hotel Leofric\* in Coventry—wished to furnish and decorate the major rooms in an up-to-date manner and of a quality befitting one of the main hotels of the city. Very little interior work had been done in the hotel during the last twenty years and so a complete scheme was necessary. The programme of the work was very restricted. Four weeks were available for the restaurant and a week after it opened work began in the grill rooms, servery, cocktail bar

\* See frontispiece, page 294.



**BEFORE** ↓ **AFTER** →



and entrance foyer. The first part of the work had to be put in hand whilst tenders for the second part were being dealt with.

The work on the ground floor: the grill room, servery, entrance foyer and cocktail bar involved extensive structural alteration. The original servery was quite inadequate and a concrete block wall was built forming a new servery, of almost twice the area. A new main ventilation extract duct from the servery, grill room and cocktail bar was installed with the motor and fan mounted at roof level. The floor of the servery was tiled and a complete set of servery equipment installed. Twelve paintings by Charles Burton were specially commissioned for the various rooms.

**cocktail bar** previously there was an entrance to the grill room from the street through an ill-shaped entrance foyer from



which a door led to a very ordinary smoke room bar. The aim of the new scheme was to convert this to a high quality cocktail bar. The doorway to the entrance foyer was enlarged to an opening 12 feet wide and this makes the bar bigger and produces an interesting entrance to the grill room.

Afromosia panelling is used on the partition walls of the foyer and the other walls are papered with a specially printed paper in two shades of purple. The inner entrance doors are in teak and the outer doors are standard Armourplate doors with two engraved bands across them. A large show-



3, interior of the cocktail bar before, and 4, from the same viewpoint after, redecoration, showing the lower ceiling that was inserted over the bar. 5, the cocktail bar looking towards the foyer, and 6, on the facing page, another view from the foyer. 7, the shutter to the bar front shown lowered. 8, the foyer looking towards the grill room before, and 9, from the same viewpoint after redecoration; part of the staircase has been built over to provide an upholstered bench.



case is arranged at the entrance and new terrazzo steps and brass handrails have been provided.

The room was far too high for the floor space and so a lowered ceiling was arranged over the bar itself, this also permitted the use of shutters which could slide up into the space over the new ceiling, and the housing of connections to the air-extract system. The bar counter is in teak with polished brass fittings and foot rail: the top is a red plastic. The back fitting is made up of panels of green marble and mirror with glass shelves for bottles and glasses. A gold moire paper is used on the walls and main ceiling and the curtains are a red woven cotton. The lowered ceiling over the bar is painted blueberry blue: chairs are upholstered in grey-blue and black. Three wall mirrors are fitted to make the room appear larger and more interesting.

**grill room** since the ceiling was untidy with several very deep beams, a suspended



7

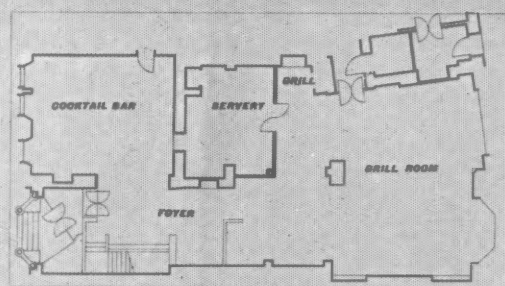
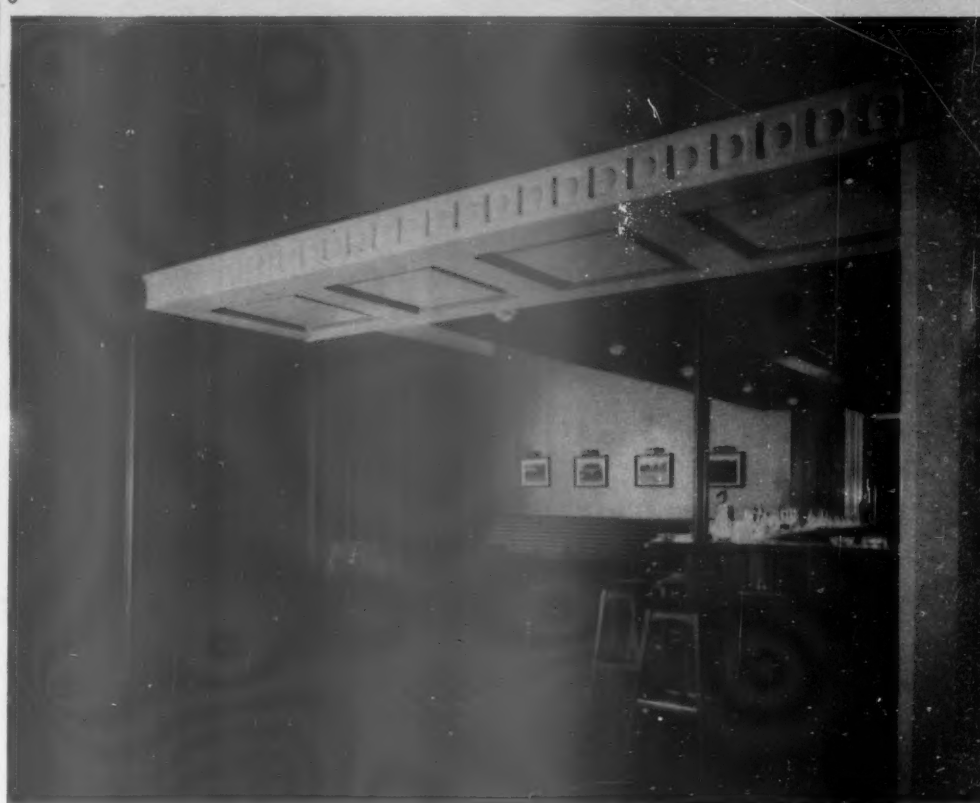
ceiling of plaster on expanded metal was erected over the whole room at a height of 9 feet 6 inches. A lighting core was formed at the walls and over the windows and recessed lights were fitted over the main ceiling. Extract ventilation was arranged over the new ceiling through slots in the lighting core and through the recessed light fittings. The ceiling is painted red and the two flank walls a warm grey; the other walls are panelled with vertical boards of



3

**BEFORE** ↑ **AFTER** →

6



ground floor plan of redecorated area



9



10  
11



12



13  
14

10, 11 and 12, three views of the grill room; the ceiling is painted red and the walls warm grey; paneling is of Afromosia, machine-moulded to a pattern. 13, the first floor dining room before and 14, from the same viewpoint after, redecoration.

Afromosia which have been machine moulded to give an all-over pattern. Seats with high backs and upholstered in a deep purple fine quality tapestry are fitted along the walls; chairs are in African mahogany and upholstered in black hide. The carpet of moss green with a lime green pattern, is used throughout the newly decorated rooms; curtains are blue-grey woven cotton.

restaurant on the first floor required little structural alteration: new double swing doors were provided for the servery and one doorway was bricked up. Extract ventilation had to be provided and this was done by arranging a grille over the new servery doors connected to a new main extract duct coming up from the ground floor; extract fans for the other end of the room were provided in louvred boxes adjacent to one of the windows. Semi-circular heads to the doorways were removed and the architraves carried straight over and painted gloss white. New mahogany doors with polished brass furniture were fitted in deep mahogany linings. The walls were stripped of all applied mouldings and papered with Edward Bawden's 'Flute' wallpaper: the ceiling was painted pale blue with the mouldings picked out in flat white. There are wall bracket lights mounted on panels of red velvet to give spots of rich colour on the dark walls. Curtains are a sharp yellow damask and the windows and reveals are painted gloss white. Chairs and waiters' service tables, which were specially designed, are in African mahogany, the chairs upholstered in black hide with polished brass trim.

## 2 DESIGN REVIEW

### DESIGNERS IN THE MAKING

by Diana Rowntree

In the March issue Diana Rowntree examined the methods used to teach Design in the various Industrial departments of the Central School of Arts and Crafts and the Royal College of Art. On the following pages is illustrated a selection from the work done in these departments. Most of the examples are finished designs by students at various stages of their training, though some illustrate particular methods of teaching. It is a tribute to the seriousness and effectiveness of the teaching that neither school has branded itself with a recognisable style.

1, right, a primitive structure built by a first year student in the school of interior design at the Royal College of Art.





## Building for the Industries of the World



### ELECTRICITY

**K**UWAIT Town Power Station now coupled with the Seawater Distillation Plant serves the needs of the growing population of Kuwait, and is only a small part of the Kuwait Development carried out by the Gulf Engineering Company in association with Richard Costain Limited. Reservoirs, pumping stations, water towers, workshops, jetties and substations have enhanced the amenities of this rapidly expanding community.

Consulting Engineers, Messrs. Ewbank & Partners.

Architects, Messrs. Farmer & Dark, F/R.I.B.A.

constructed by

**THE GULF ENGINEERING COMPANY (KUWAIT) LTD.**

in association with

RICHARD

**COSTAIN**  
LIMITED

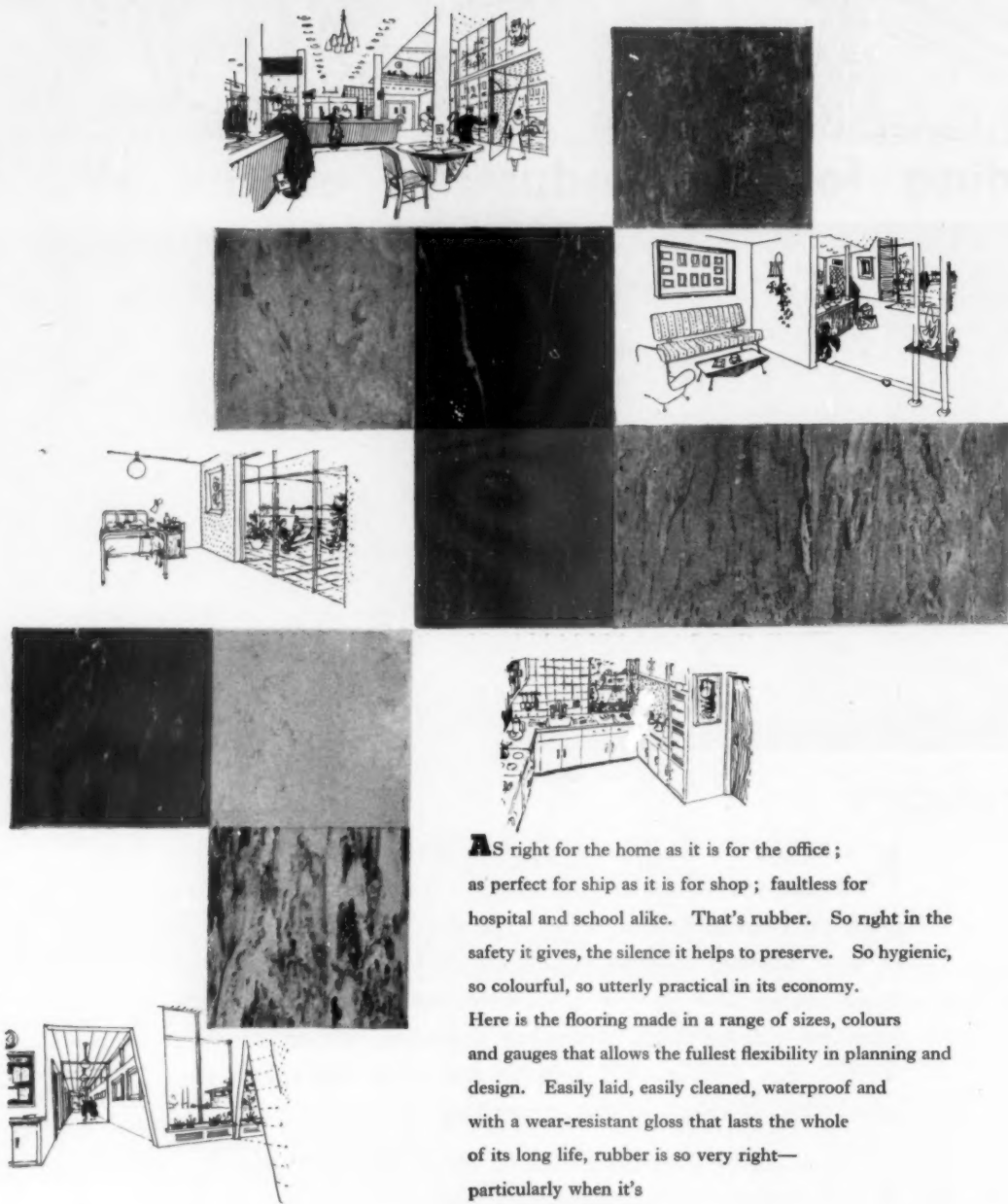
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## Rubber is so right... *in so many ways*

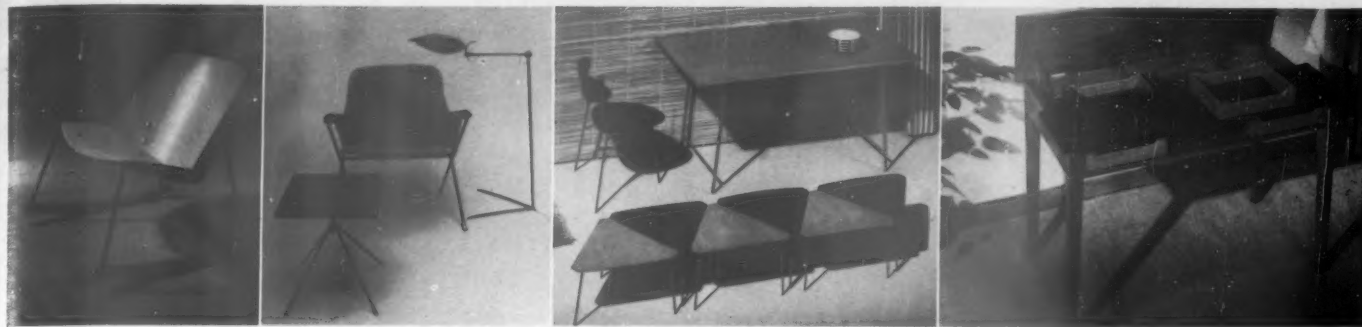


**AS** right for the home as it is for the office ;  
as perfect for ship as it is for shop ; faultless for  
hospital and school alike. That's rubber. So right in the  
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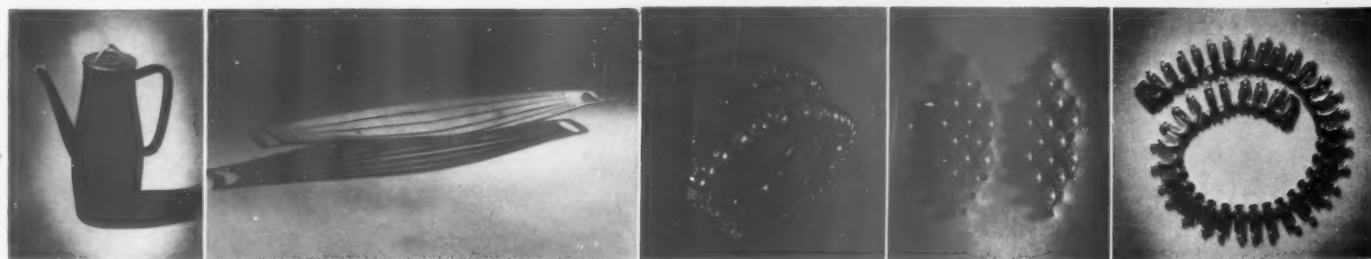
**FURNITURE.** 2, rocking chair by Aidron Duckworth, 3rd year. The ply back and seat units are formed to a curve in one direction. The tubular metal frame fits into the rockers which are removable when not required; without them the frame is finished by rubber shoes. 3, chair, table and adjustable floor standard lamp by Norman Slater, during 2nd and 3rd years. Steel framed chair with wicker seat and back. Prototypes were made of this frame and covered in different materials. The coffee table can be used singly or in a group. The plywood tops are veneered in Waverite of different colours, or

woods. The glass ash-tray is held by a swivelling arm. The outer reflector of the lamp is fitted with an inner shield pivoted to direct light upwards or downwards. 4, table, three-legged chair and occasional tables by Mary Shand. These designs cope with the constricting requirements of modern living. The occasional tables can form a hexagonal coffee table. The three-legged chair is particularly useful with a circular dining table. 5, writing table with removable trays by T. B. Dunne. Half of the top is leather-covered.



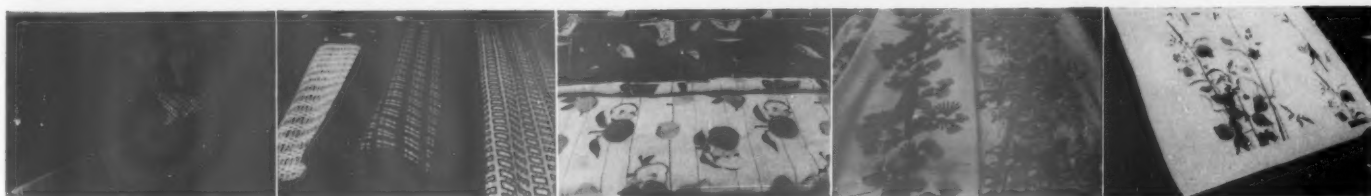
**ENGINEERING DESIGN.** 6, a series of milled textures applied to brass, by N. Slater. Such exercises are connected with lectures on texture applied to various materials. 7, triple wall light fitting by A. Irvine. The fitting is adapt-

able to ceilings. Light is mostly reflected with a little direct light through the apex of the cones. 8, wash basin for use in small bathrooms of quantity-produced houses. Designed by J. V. Sharp.



**JEWELLERY AND SILVERSMITHING.** 9, coffee percolator in vitreous enamelled ware, green with white inside, and anodized aluminium lid, by A. G. Benney, 3rd year. 10, fruit dish in anodized aluminium, by A. G. Benney. 11, spring coil bracelet in oxydized silver, with lacquered, gilt metal spiral enclosing pearls, by John Donald, 1st year, 1953. 12, earrings by N. Hukin.

White paste and pearls, with gilt metal. 13, necklace by L. E. J. Keene. Silver gilt with black inside, and paste pearls. In this department at the Central (p. 351) a craft tradition is evident. At the RCA stress is on the study of natural forms (11 shows this), and on design as a product of hard mental exercise, rather than a by-product of the proper use of tools and materials.

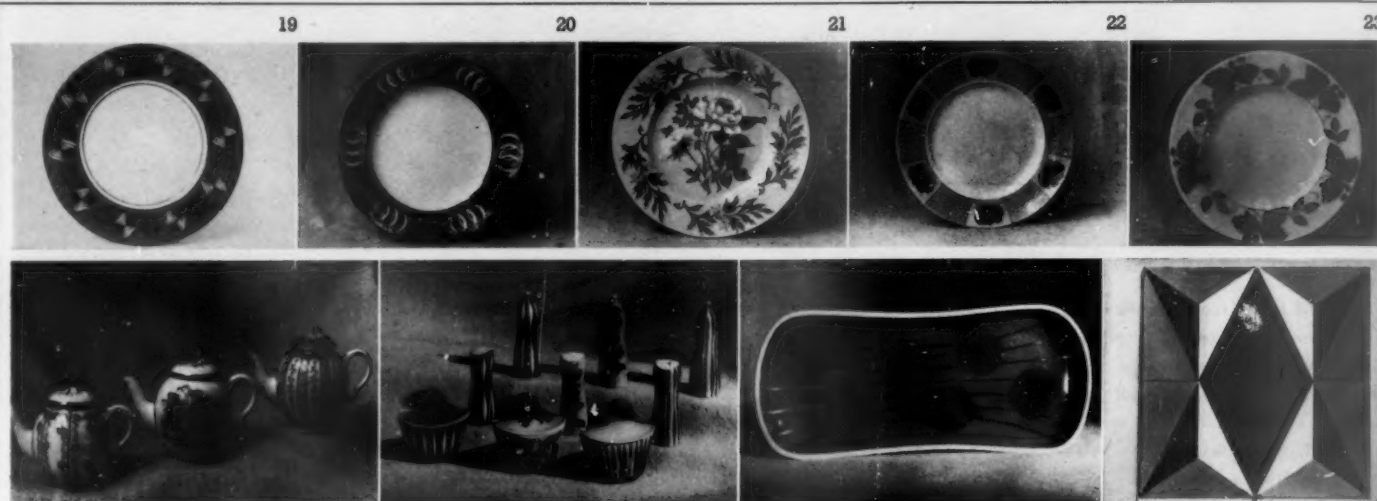


**TEXTILES.** 14, woven dress materials. Top left, mercerised cotton by Jessica Buckley. Top right, pure silk with cut weft by Frank Davies, 3rd year.

Bottom, pure silk taffeta by Patricia Turner, 1st year. 15, heavy weaves for coats and furnishing. Left to right, heavy coat tweed by Jessica Buckley; heavy

coat tweed, and a furnishing cotton both by H. Harcourt-Peacock, 1st year; coat tweed by Mary Lawrence, 1st year; all cotton furnishing by Frank Davies. 16, furnishing prints. Below: viscose grosgrain by Jean Myers, 2nd

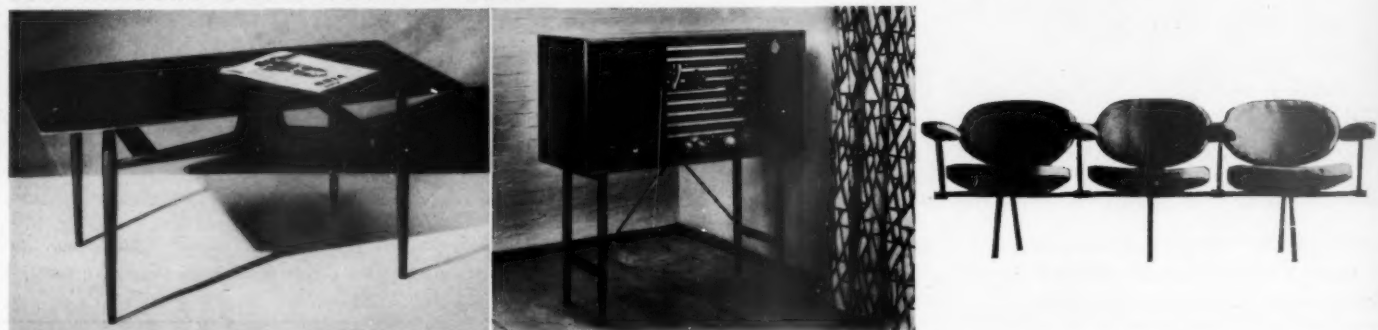
year. Above: spun viscose by Anthony Logsdale, 3rd year. 17, first year exercise in prints repeating in one direction only. 18, completed design for the repeat of a print at the drawingboard stage.



**CERAMICS.** 19-23, five decorated plates in different styles and techniques: 19 and 20, ground lay and brush decoration by Betty Davies; 21, litho decoration by Ulla Goodman; 22, decoration with yellow engobe and black by Tom Arnold; 23, painted decoration by Jim Matthews. 24, three tea pots by Monica

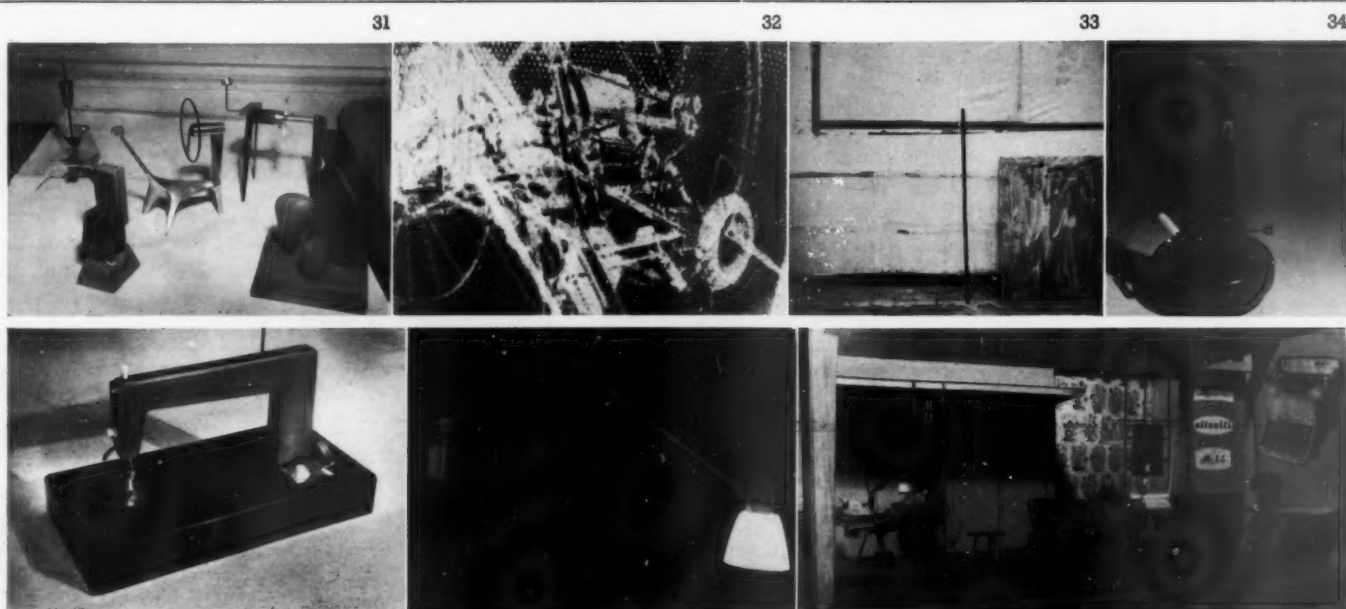
Ford; the right hand one is a copy of one in a museum; the other two show alternative methods of decoration. 25, cruet sets by Robert Jefferson. 26, large dish with underglaze slip, gold stripes, and litho decoration by Kenneth Sproson. 27, set of 4 decorated 6 inch tiles by Betty Davies.

#### CENTRAL SCHOOL OF ARTS AND CRAFTS



**INTERIOR DESIGN AND FURNITURE.** 28, occasional table veneered in macassar, with legs of afromosar by Bernard Heppenstall, 1st year. 29,

teak sideboard with ebonized doors, accessible from both sides, by Julia Powell, 2nd year. 30, model of a ribbon seating system by Martin C. Grierson, 3rd year.



**INDUSTRIAL DESIGN.** 31, various examples of machine sculpture in wood and metals. Creative photography, 32, and, 33, tonal composition with the materials nearest to hand. 34, oil heater by Anthony Mann.

35, sewing machine by Ray Colthurst, 3rd year. 36, hospital light fitting; this subject was undertaken by a group of five final year students, researching in collaboration with hospital authorities. From conception to





Dover Car Ferry Terminal finished inside and out with Leigh Paints (Photograph by courtesy of Dover Harbour Board — Architects: J. M. Wilson, H. C. Mason & Partners)

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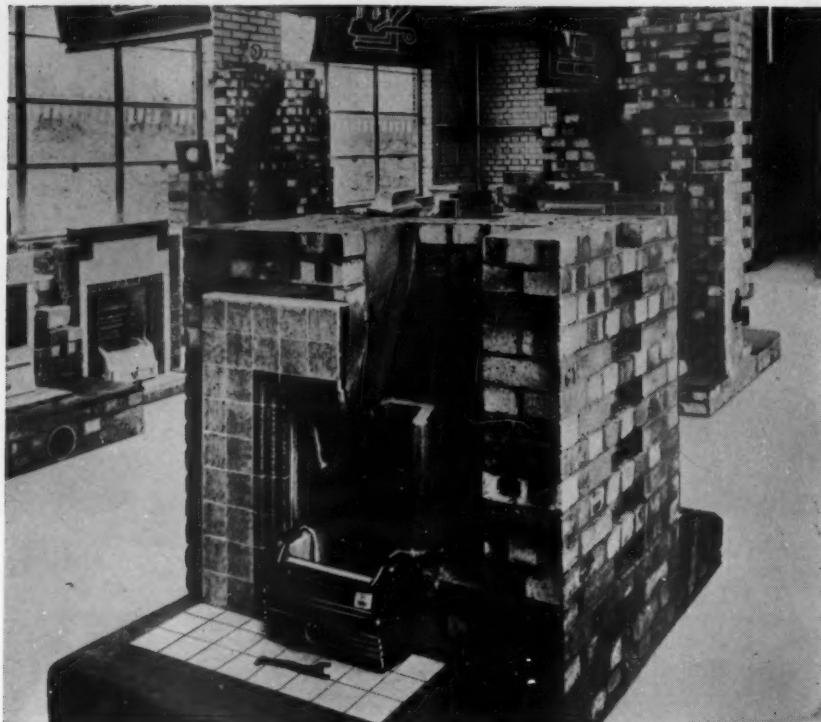
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Every six months the C.U.C. issues a list of Recommended Domestic Solid-Fuel Appliances. All appliances on this list have been tested to ensure a high standard of efficiency, durability and economy. In the interest of your clients and your firm, it pays to consult this list when recommending domestic solid-fuel appliances for any purpose.

Because recommended solid-fuel appliances must be correctly installed, if they are to be fully efficient, the C.U.C. also provides a service of instruction on installation for architects' and builders' staffs, and all authorities concerned with building or converting houses. Two-day courses on fixing are held at the C.U.C. Training Centre in London. For builders' staffs unable to attend these, special one-day courses are held at Technical Colleges in various parts of the country.

In both cases, the instruction is given by experts, with plenty of practical demonstrations. Direct enquiries on the scope of these training courses should be made to the C.U.C. at the address below—or to any of the C.U.C. Information Centres which appear on the right.

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final production over 100 drawings were made. The fitting was designed to sell for under £5. In fact the calculated retail price turned out to be £4 6s. 4d. 37, model of a design for an Olivetti showroom. This kind of subject is the final stage of the Basic Design course. In this department and in the RCA engineering design department avowedly different educational approaches in the two schools are clearly working to the same end. The Central School spends more time and thought on æsthetic theory; theory of design, machine sculpture and creative photography figure in the syllabus. The RCA does machine carving but is impatient of theory generally. Considerable attention is given there to making teasingly exact models of objects and plants.

**JEWELLERY AND SILVERSMITHING.** 38, silver earrings by Mrs. Sowers, 1st year. 39, coil bracelet in copper and German silver, by J. Metcalfe.



38

39



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43

**TEXTILE DESIGN.** 40, limbering up; one example from a class exercise using scraps of coloured paper. 41, four woven fabrics; every Central School weave student learns to spin. Hand-spinning is subject to infinite variation so that this is a method of giving the students insight into the possibilities of yarns: left to right, a stole in hand-spun Spanish Piebald; black, brown and white wool; by Marta Teibak, 1st year; light suit-weight Cheviot tweed by Michal Illan, 2nd year; cotton furnishing by Margaret Ratcliffe, 1st year;

jacquard woven cotton furnishing by Eileen Davies, 2nd year. 42, left, printed cotton furnishing by Michele Thomas, 2nd year; right, printed cotton dress material by Ann Bates. 43, printed cotton furnishings, left, by Ann Bates and right, by Wanda Wistrich, both 2nd year. The amazing speed of the turnover in textile designs makes the examples of work in this field even less 'representative' than they are in other departments. In both schools the versatility and range of idiom are striking.

44

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46



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49

**POTTERY.** 44, examples of rolled work; [much of this is done by African students who will return to cater for a primitive way of life. 45, tea set in painted earthenware by Doreen Lambert, 2nd year. 46, earthenware tea pot, cup, saucer and plate by Gordon Baldwin, 3rd year. 47, large dish with scratch decoration, cups and bowl by Kenneth Wright, 3rd year. 48, large dish with pattern scratched in the glaze by Ann Wynne-Rees, 3rd year. 49, drawing exercise by pottery student. 50, earthenware convection heater by Gordon Baldwin, 3rd year. The convector is made in three sections, and can be used with gas, electric or oil heat. Pottery is the only department where the two schools are in marked contrast. The School of Ceramics at the RCA maintains close co-operation with the Potteries. In serving the Industry it is governed more by present-day conditions than by opinions of what those conditions ought to be. The students are taught a very high degree of technical accomplishment. A system of apprenticing 1st year students to those in 2nd and 3rd years gives them valuable experience in co-operation. The Central School is training studio potters; it is its æsthetic principle to concentrate on the importance of three-dimensional form.

Diana Rowntree



50



# 3 TECHNIQUES

## SLIDING DOORS AND DOOR GEAR

by Robert Maguire

Sliding doors have for long been taken for granted for certain specialized purposes—such as in lifts and railway carriages—where their use is a matter of necessity. The technique has been developed to a point where it is reliable and efficient, and the many advantages offered by sliding door systems have encouraged their use in an increasing number of new applications. The industry has met this demand, with the result that a bewildering variety of gear systems is now available, for uses ranging from cupboards to aircraft hangars. Here Robert Maguire describes the basic types which have been developed for each.

Under the name 'sliding door' comes a number of very different products. The term can be taken to mean any door, window, gate or shutter which slides either horizontally or vertically. This article is concerned with those types of horizontally sliding door in which the design of the doors themselves is left open to the architect, and for which separate, flexible systems of gear are manufactured.

The main reason for the large variety of types of gear is that there are four distinct systems of sliding doors, each of which has its special requirements. Added to this is the choice of either an overhead or bottom track; these can both be applied, as alternatives, to each of the door systems. Further variation is introduced by conditions of size of gear and the weight it has to carry, and occasionally cost.

The straight sliding type of door, 1, is the simplest and most familiar. The door moves to one side of the opening while remaining in the same plane. A development of this type, but one which modifies the system sufficiently to warrant separate consideration, is the angle sliding type, 2, in which the track is taken round an angle to permit the doors to slide into a different plane. The third is the end folding type, 3. Here a new principle is introduced: only one end of each leaf is connected to the

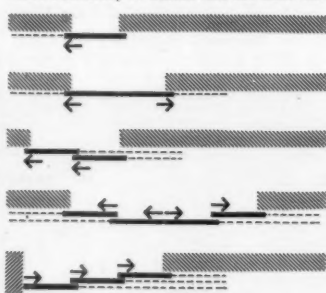
track, and the doors slide and fold simultaneously, arriving at the side of the opening stacked face to face. Similar in many respects, but again to be clearly distinguished, is the centre folding type, 4, which slides and folds while being connected to the track at the centre of alternate leaves.

### straight sliding doors

**Arrangement** The size and number of the leaves necessary to fill an opening depend on several factors. The size of each leaf is largely governed by the design load of the gear. A fundamental requirement of all sliding door gear systems is that not more than two roller carriages can be used on any one leaf, since a third carriage would be taking either all or nothing of the load. The weight of large doors cannot therefore be distributed over a number of carriages; the two courses remaining are to use a heavier duty (and more expensive) gear, or to break the door down into a number of smaller leaves. The number of leaves, of course, depends on the size of each and the width of the opening, but there are limits to the number which can economically be housed at the sides of the opening if this is required to be left completely clear. The diagrams, 5, show several economical

arrangements of leaves which give a clear opening, while if the whole width is not required to be opened at any one time (such as, for example, in storage walls and cupboards) simple double track arrangements needing no space at the sides, 6, can be used.

**Gear** For very small doors to cupboards and cabinets it has been found that no rollers are necessary and the doors will slide quite smoothly on fibre runners, 7. These are let into the



5, above, single, double and triple track arrangements for straight sliding doors. 6, below, simple double track arrangements giving a limited opening.



8, tracks for small frameless plate glass doors: left, fibre; right, brass with inserted composition strips.

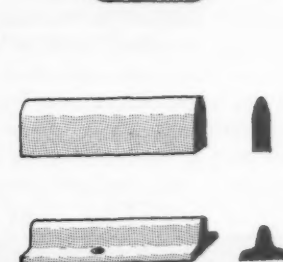
underside of the door and run on a fibre track. For small frameless plate glass doors, channel section tracks are available in fibre or in brass with an inserted composition strip, 8.

Heavier cupboard doors (up to 30 lb.) begin to require some form of roller gear, and small bottom rollers, 9, which can be housed within the thickness of the door in narrow mortises, are now made for this purpose. These have either an 'endless chain' of ball bearings or a small wheel mounted on a ball-race, and run on a coppered steel track.

the door from an overhead track, in which case a guide channel is needed at the bottom.

Bottom rollers and their top guides are basically similar in design for all sizes of straight sliding door, 10. The track is usually in the form of a T with the web pointing upwards to take a grooved wheel; the projection of this is undesirable in some instances, although it is possible to recess it to be flush with the floor surface. An alternative is a sunk channel track and a centre-flanged roller wheel. Top guide tracks are always simple channels attached to the top of the opening, with either horizontal roller guides or fixed 'shoes' travelling in them. Although taking none of the dead weight of the door, these top guides are often subjected to considerable horizontal forces due to wind pressure and impact.

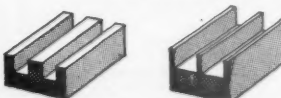
For all except the heaviest doors, overhead tracks with trolley hangers may be used. This arrangement, of course, puts the whole load of the doors on the lintel, which makes it



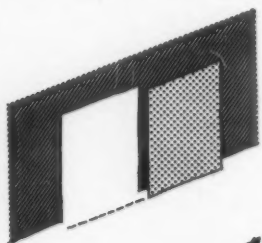
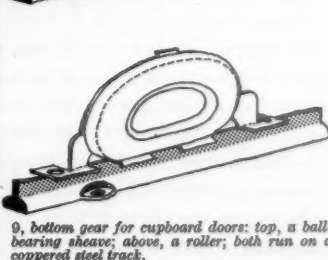
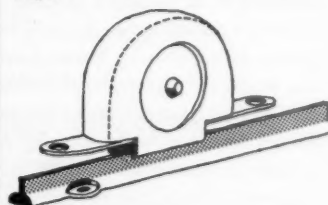
7, fibre runners and tracks for cupboard doors.

unsuitable for some applications. On the other hand it has the great advantage of permitting the least amount of obstruction on the ground—in many cases the floor can be left completely uninterrupted. The simplest and cheapest type of overhead gear is the strap hanger with a single wheel running on a bar type track, 11. This is sturdy, easy to install, and accessible for lubrication, but it takes up a large amount of

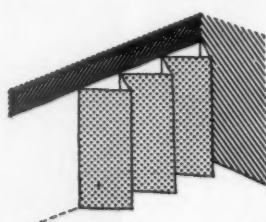
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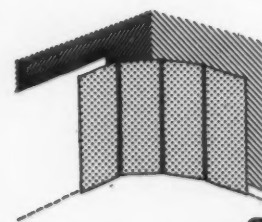
9, bottom gear for cupboard doors: top, a ball-bearing sheave; bottom, a roller; both run on a coppered steel track.



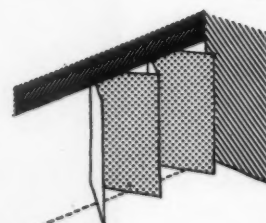
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1, straight sliding door. 2, angle sliding doors. 3, end folding doors. 4, centre folding doors.

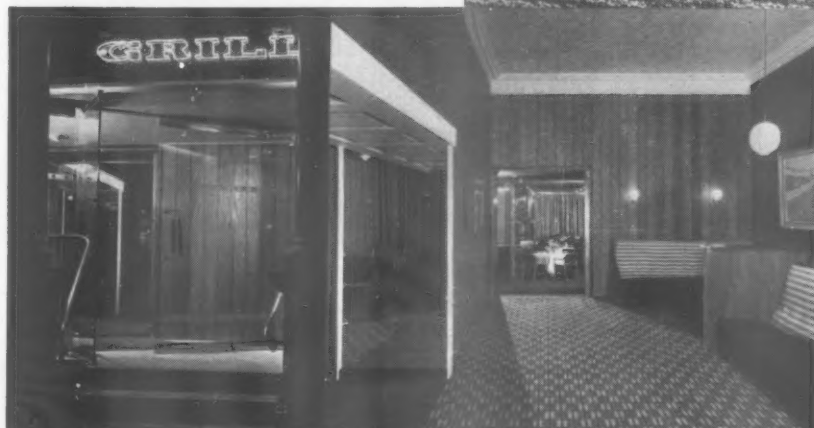


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For the Grill Room curtains "Eaton Square" has been selected—this is interwoven with Lurex, non-tarnishing metallic thread in Gold. The fitted seats in the Cocktail Bar and Entrance Hall are covered in "Stratford" Black and "Westminster" Mustard and Ink. The Armchairs are covered in "Stratford" Black with "Stratford" Grey used for the piping. Deep Textured furnishing fabrics are manufactured by Tibor Ltd., Stratford-on-Avon, who are pioneers in texture weaving.





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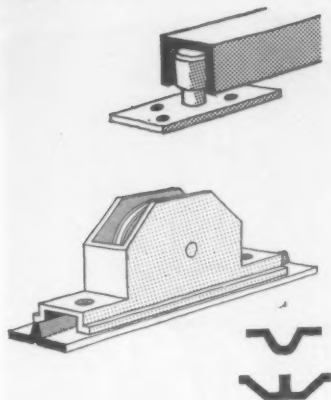
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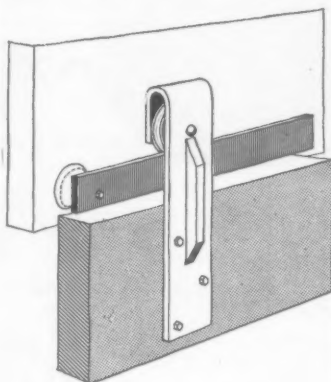
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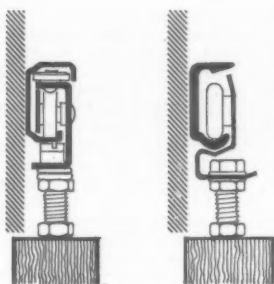




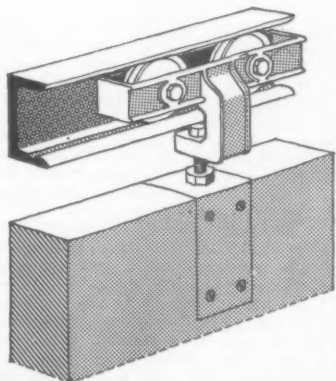
10, bottom roller gear for straight sliding doors: above, a small domestic type, suitable for doors weighing up to 100 lb; right, heavy industrial gear, for doors weighing up to 4,000 lbs.



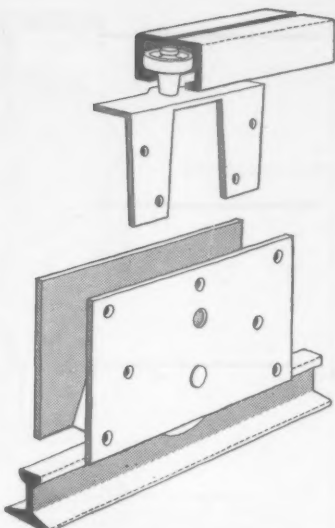
11, a strap hanger and bar-type track.



12, two types of overhead gear with channel-section tracks, for light domestic doors: left, with a pressed steel track; right, with an extruded light alloy track.



13, channel-section track and gear for heavier doors.



which slide back some distance from their closed position require a guide track at the bottom, usually a metal channel let in flush with the floor. Short guide shoes, pins, rollers, or a continuous metal T screwed to the underside of the door engage in the channel. Experience has shown that the guide shoe is the most practicable of these alternatives, and its use is now superseding that of pins or rollers. The plough-shaped shoe has been developed by some manufacturers with the object of clearing the dirt, which inevitably collects in the floor channel, as the shoe travels. It has been found that rollers cease to turn after a time and then become worn with two flat faces. The continuous T guide is used when a draught-proof door is required.

Weather hoods are made for most types of overhead track and these also to some extent provide draught-proofing at the top of the door. To be really effectively draught-proof, the head detail should include a complete boxing-in of the track, the soffit of the box coming as close

as possible to each side of the door, 18. Some makes of straight-sliding door gear incorporate a rubber end buffer in the track itself, while other manufacturers recommend a stop half-way up the door—an arrangement which prevents the momentum of the moving door from causing it to tilt when suddenly arrested.

Almost all types of track are provided with means of fixing to either soffits or vertical wall faces.

Special gear has been evolved for certain types of straight sliding door. For instance, bi-parting doors, 19, can be coupled together by a system of pulleys and cables for sympathetic operation. Access to this gear for maintenance must be given particular attention, especially in those cases where the doors slide into wall cavities.

#### angle sliding doors

**Arrangement** This type of sliding door provides a solution to the problem of large openings which have little space at either side to

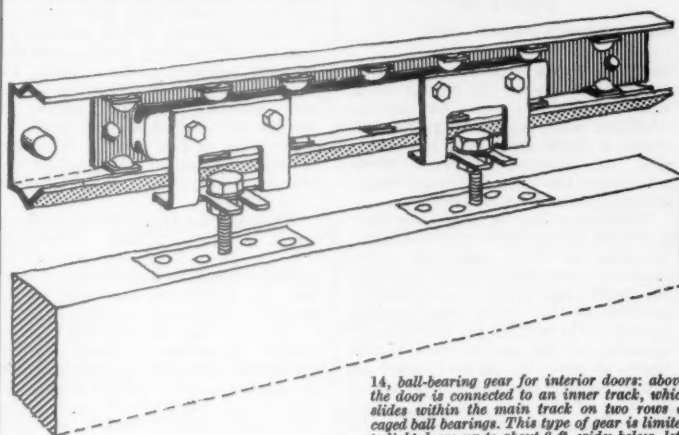
space. One method of saving space and improving the appearance, while still retaining the low cost, is to use a channel type of track, 12; this construction is not so strong, but quite suitable for small doors up to 100 lb. For heavier doors there is a type using two wheels and a rolled steel channel, 13.

One problem relating to light domestic doors is that the weight of the door is often insufficient to counteract the sideways thrust of opening; the door tilts and tends to jam. Several ingenious systems have been developed to avoid this, operating on the same basic principle, 14. The door is connected through adjustable brackets to a steel 'inner track,' running within the main track on two rows of caged ball bearings. The inner track is therefore prevented from moving laterally and holds the door square.

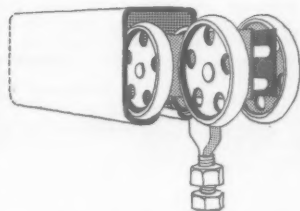
The tubular track system, 15, is not only applicable to straight sliding doors of all kinds (except the very largest, over 8,000 lb.) but is also the principal system used for angle sliding and sliding folding doors, on account of its versatility. It consists of an inverted U-shaped track in which two- or four-wheeled trolleys run. The track is made in a large number of sizes and gauges, and the trolleys are available in sizes corresponding with the track. For exceptionally heavy doors an eight-wheeled trolley with load-equalising couplings may be used, 16.

All the better-quality overhead gear is equipped with a vertical adjustment on the link between the trolley carriage and the door; some types also incorporate a swivel at this point to ensure that the carriage still runs true if either the door or the track is out of plumb. Carriages are varied in design to take account of fixing to both wood and metal-framed doors.

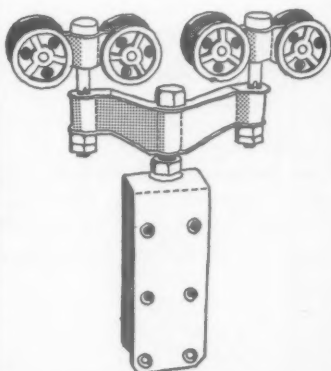
Bottom guides for overhead suspended doors take several forms. Leaves immediately adjacent to the side of the opening are usually arranged to slide back into a position where a few inches of the leaf still project, 17, in order to allow access to the pull handle and to avoid trapping the fingers between the door and the jamb. With this arrangement a short upstanding guide can be screwed to the floor in the position always concealed by the door, and this engages in a metal channel grooved into the underside of the door. In this way the threshold is left clear of any obstruction. Leaves



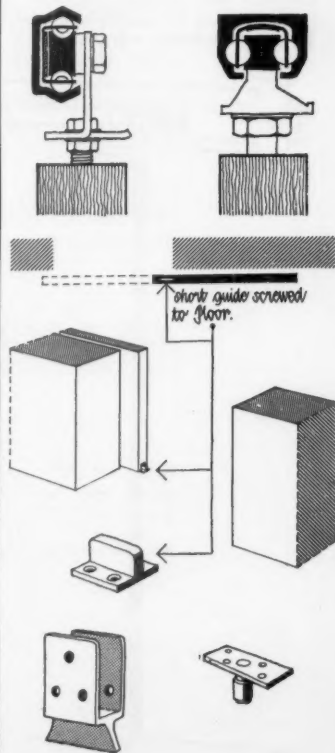
14, ball-bearing gear for interior doors: above, the door is connected to an inner track, which slides within the main track on two rows of caged ball bearings. This type of gear is limited to light doors up to about 6 ft. wide; below, left, vertical arrangements; below, right, horizontal arrangement.

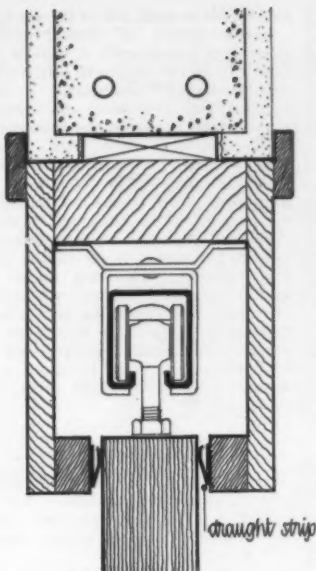


15, tubular track and hanger. The hanger may be attached to the door in many different ways, depending on the construction of the door.



16, above, an eight-wheeled hanger with load-equalising couplings, for very heavy doors. 17, right, bottom guides for overhead suspended doors: top, floor guide; bottom left, guide shoe; bottom right, guide roller.





18, typical draught-proof head detail.

house the doors. By curving the track around the corner at one or both ends, the doors can be accommodated when open along the side walls. A single track only is needed, and the system becomes more economical than a multi-track straight sliding system for wide openings.

The leaves may be hinged together in suites of up to five to facilitate opening, or they may be quite separate—this becomes essential with the larger types of door. One problem peculiar to this sliding door system relates to the tracking of the end leaf adjacent to the curved part of the track. If there is sufficient space to provide a short return wall next to the opening at this end, about 6 inches longer than the radius of the track curve, 20, the end leaf will close into the same plane as the other doors. There is often no space for this, however, and in such instances the end leaf must be hinged separately. Two arrangements are possible, 21;

the first is to hinge the door to the adjacent leaf, and provide a pilot bolt which drops into the bottom track when the door is opened a few degrees. This has one great disadvantage: the gear attached to the adjacent leaf has to take the weight of both doors, and consequently the size of gear required will be uneconomically large. The alternative is to hinge the end leaf to the jamb of the opening. A separate hinged end leaf is useful for the ordinary access of persons; with the arrangement shown in 20 a small wicket gate in one of the leaves would probably be necessary.

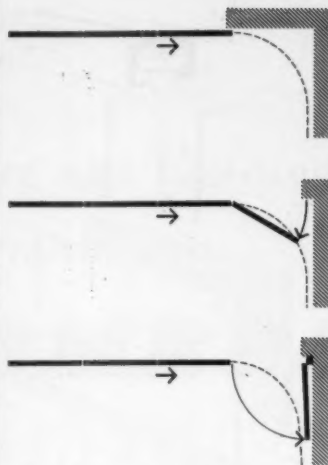
**Gear** For all except very heavy doors, the overhead type of gear is most suitable, provided that the lintel over the opening is strong enough to take the load.

Advantage is taken of the fact that the doors are hinged, by incorporating the hanger of the carriage, and also the bottom guide, in the pins of the hinges. The illustration, 22, shows a light duty gear suitable for doors up to 10 feet high and 120 lb. per leaf. For end leaves the hanger is similar but with only one backflap.

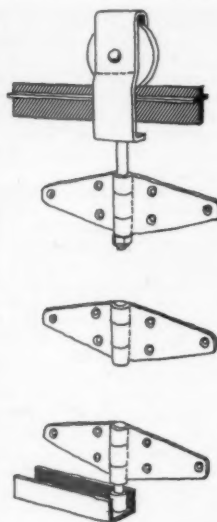
Two important points relating to this type of gear are, firstly, that the bottom guide channel must be exactly plumb under the top track, and secondly that the centre of gravity of the door is offset from the centre line of the hanger; this puts considerable horizontal thrust on the bottom guide, which must therefore be a roller.

Heavier duty types use the tubular track system already described. Two- or four-wheel carriages can be used according to the load conditions, and the fixing to the door is incorporated in the hinge pins.

The very large doors (up to 1½ tons) needed for aircraft hangars and bus garages are too heavy to be suspended from above, and bottom rollers are necessary. Since there is usually no space problem, wheels of large diameter and with heavy ball journals can be used, 23, giving smooth running. A large horizontal roller guide running in a steel channel track provides stability at the top. The doors are not linked together and



20, top arrangement of angle sliding doors with a return wall. 21, above, arrangements without a return wall, using freely hinged leaves.



22, lightweight angle sliding door gear suitable for small garages.

so are provided with two rollers each. Despite their weight, doors of this size can be opened manually with great ease, and no special opening gear is necessary.

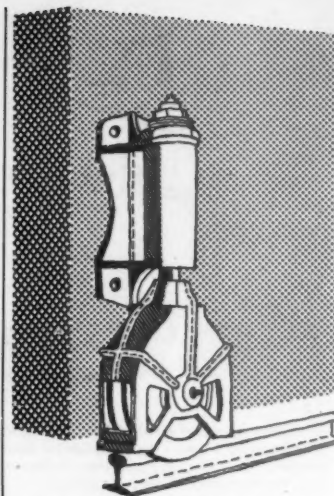
Small bottom rollers are made for light installations for which overhead support is not practicable. These are attached to the hinge pin in a similar manner to the hangers of overhead gear.

#### end folding doors

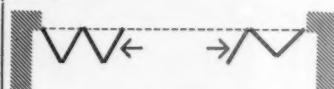
**Arrangement** Theoretically any number of leaves may be used on this system, but when the number becomes very great—as, for example, on aircraft hangars—power operation is required to open them.

The hinged suites of doors may slide to one or both sides of the opening, and each suite may contain an odd or even number of leaves, 24. If an odd number is used, one leaf will be swinging free; this puts extra loading on the gear and consequently increases its size, but on the other hand is useful as a pass-door.

Small suites of doors should have their end leaf hinged to the jamb for stability, but suites of even numbers over four can be entirely free and this arrangement permits their being slid back beyond the opening on an extended track, 25. Another method



23, a heavy duty bottom roller gear for doors up to 1½ tons.



24, arrangement of end folding doors in suites of even and odd numbers.



25, arrangement with doors sliding clear of the jambs.



26, track arrangement to give a clear opening.

of achieving a clear opening is a diagonal multi-track system, 26, but there are obvious limits to the number of leaves which can be used.

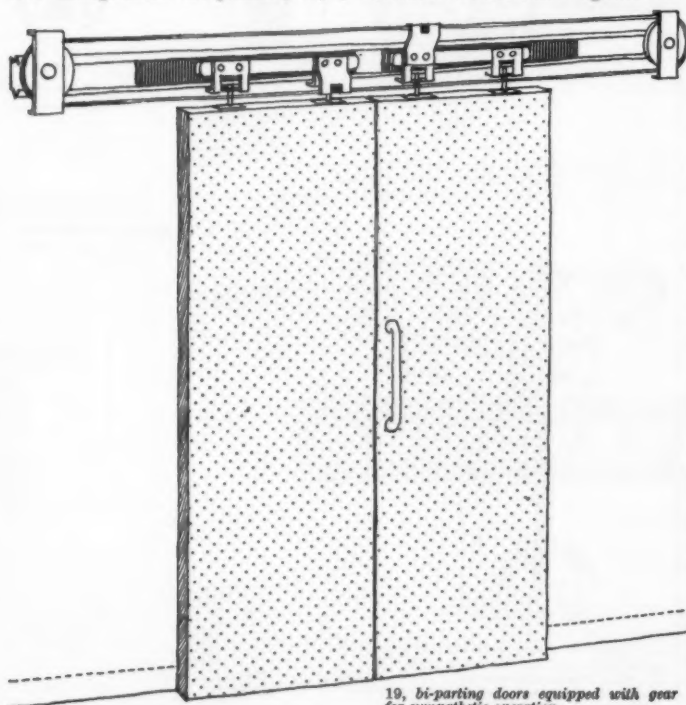
Leaves should be kept as narrow as possible in order to reduce the thrust on the track; for normal installations 3 feet is considered a maximum. With all systems of sliding folding doors, the calculation of the exact widths of leaves—complicated as they are by rebates and special end conditions—is a specialist's job, and the gear manufacturers should always be consulted.

**Gear** Several types of overhead tubular track and bottom roller systems are available, all of which work satisfactorily, and it is difficult to find any outstanding advantages of one over another.

The overhead tubular track gears differ only in the type of hanger used. One type is similar to that already described for use with angle sliding doors—the hanger is connected to the pin of the door hinges. A neater version, 27, has a strap which screws to the top and side edges and so is concealed when the door is closed; ordinary butt hinges may be used between leaves.

Bottom roller types usually have two roller wheels in order to keep the gear running straight, and two guide rollers at the top; for neatness they are accommodated in the thickness of the door although coupled to the hinge pin by a cranked connection piece, 28. When the doors are opened, they fold away from the roller gear and this is exposed to view. A special gear with a swivel

[continued on page 356]



19, bi-parting doors equipped with gear for sympathetic operation.



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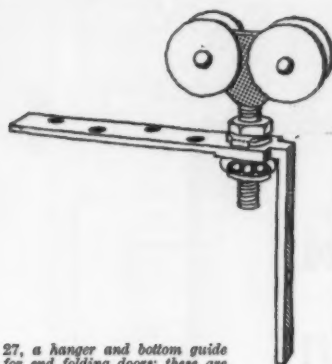
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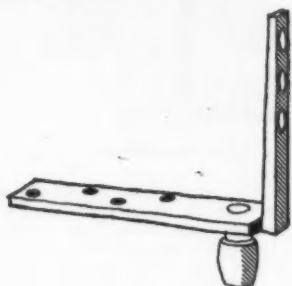
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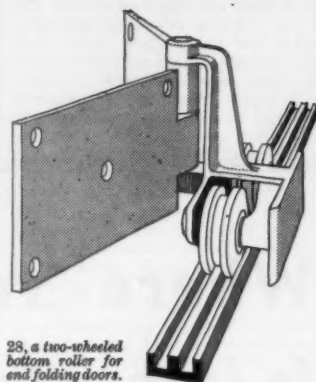
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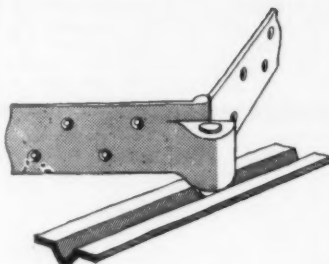
27, a hanger and bottom guide for end folding doors; these are screwed to the edges of the leaves.



roller is necessary for the end leaf, because this leaf must always overlap the track in order to close into the jamb. Swivel bottom rollers, 29, may be used for the whole installation, in which case they are attached



28, a two-wheeled bottom roller for end folding doors.



29, a swivel bottom roller for end folding doors.

to alternate leaves.

A system which has proved very efficient, especially for very large doors, introduces sliding mullions between the leaves, 30. The mullions may be considered as short straight

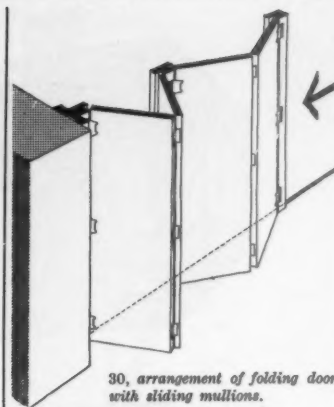
sliding doors, and so require no swivelling gear.

#### centre folding doors

**Arrangement** By supporting sliding folding doors at their centres, the horizontal thrust on the tracks, due to the dead load of the doors, can be eliminated. It is then possible with the overhead suspended type to omit the bottom track altogether where conditions are favourable, although more care will be needed in the opening and closing of the doors. This system is most suitable for such purposes as dividing dance-halls, where a completely uninterrupted floor is essential while the width of the opening is very large. It is limited, however, to installations where the weight of each leaf does not exceed 30 lb.

Any number of leaves can be used, but when the doors are free, i.e., not connected to the jamb, there should preferably be an odd number. The reason for this is that only each alternate leaf is equipped with gear (to avoid the 'lazy-tongs' effect of every door being forced to open simultaneously), and having an odd number ensures that end leaves are supported. The diagrams, 31, show the two arrangements, one with free leaves, and another with a half-leaf hinged to the jamb, which lends stability. When connected to the jamb in this way, the doors and gear must be very accurately set out if they are to run smoothly.

**Gear** Only two forms of gear are suitable: the overhead tubular track with swivelling hangers, 32, and swivelling bottom rollers in the thickness of the door, 33. Guide tracks for both types consist of



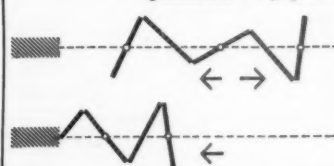
30, arrangement of folding doors with sliding mullions.

channel sections, with horizontal roller guides running in them.

#### automatic control

The case with which even very large sliding doors can be opened manually makes automatic control unnecessary in most instances. It is an expensive addition to any installation, and so normally is only considered for those cases where its cost is justified and where manual control is impossible or not fast

[continued on page 358]



31, arrangements of centre folding doors with 'free' leaves and with half-leaf hinged to the jamb.

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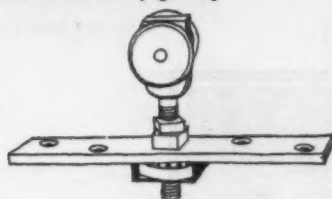
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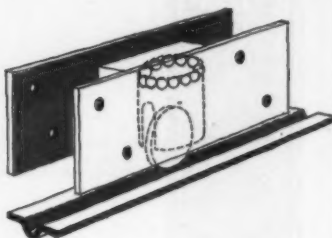
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32, a swivelling hanger for centre folding doors.



33, a swivel bottom roller for centre folding doors.

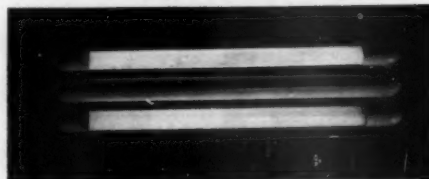
enough, such as for aircraft hangars, fire stations and lifts. Very different types of control have been developed for each of these, and the field is too specialized to be covered here.

The illustrations for this article were taken from material supplied by E. Hill Aldam & Co. Ltd., 10, 11, 12 (b), 14 (a), 14 (b), 16, 17, 19, 23, 27, 28, The British Trolley Track Co. Ltd., 29, Clarke Ellard Engineering Co. Ltd., 9 (a), 22, Esavian Ltd., 30, P. C. Henderson Ltd., 33, Lockerbie & Wilkinson (Birmingham) Ltd., 13, Charles P. Moody & Co. Ltd., 7, 8, 9 (b), 12 (a), 14 (c) and O'Brien Thomas (London) Ltd, 15, 32.

## 4 THE INDUSTRY

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As the louvres suggest, these heaters are designed for hanging at heights of 8–12 feet from the floor. They offer perhaps the most rapid means of heating the atmosphere

[continued on page 360



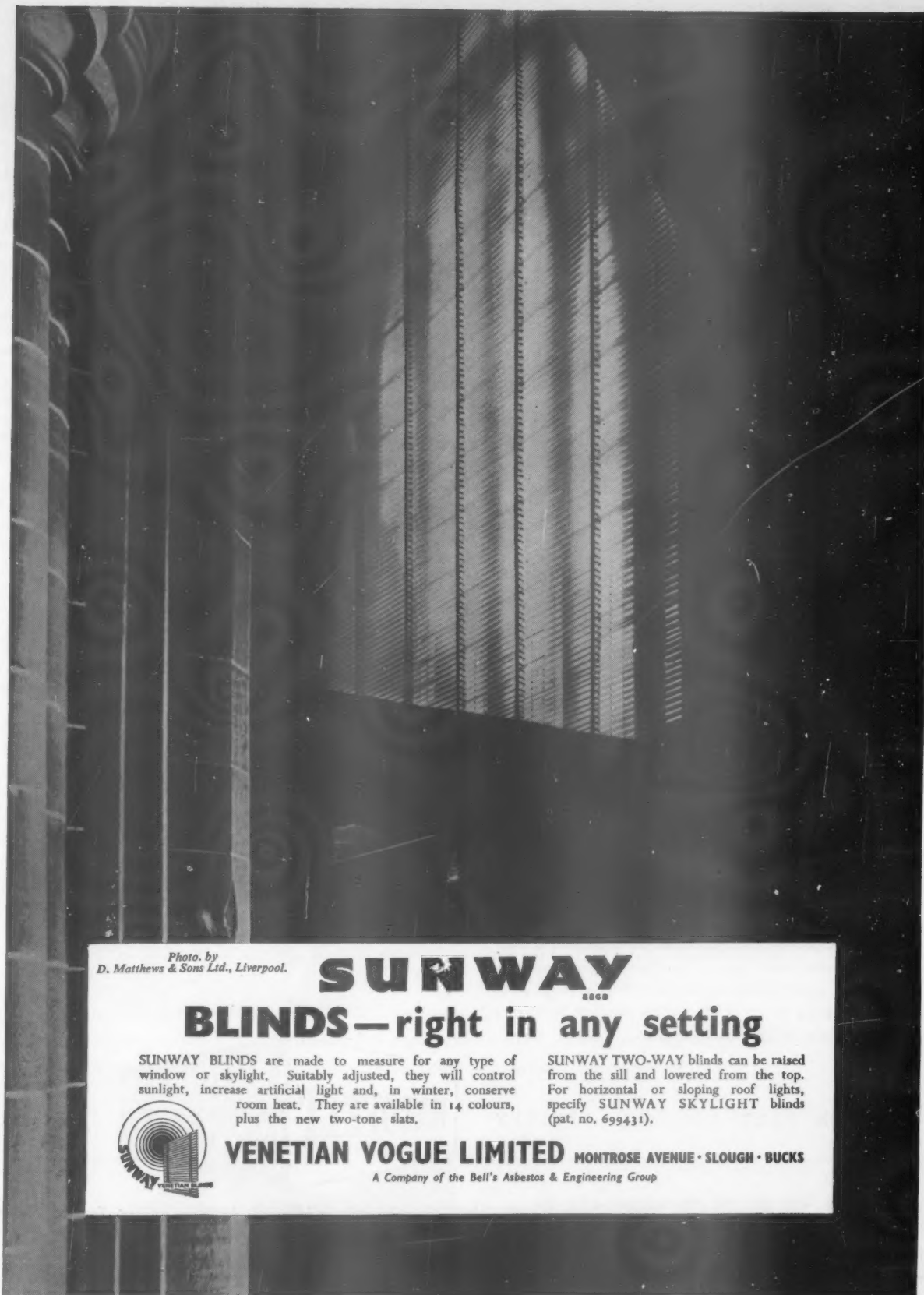
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continued from page 358]

in a cold building and thus have a special application to churches. In this connection



The Hurseal forced air heater unit.

it is interesting to notice that the three models, in ascending order, when in action are rated for sound at Q, FQ and I. Obtainable from Hurseal Ltd., 229, Regent Street, W.1.

#### LIGHTING AND THE ARCHITECT

British Thomson-Houston have mounted a small and useful exhibition at Crown House, Aldwych, to show their equipment in its relation to structure. It includes their new "module" recessed ceiling lighting; also Invertrunking (which made its first appearance last autumn) and a method of building lighting into a concrete shell. The exhibition will be open during the summer and is well worth a visit.

#### CONTRACTORS etc

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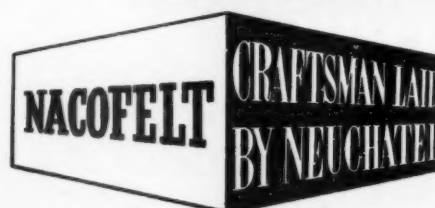
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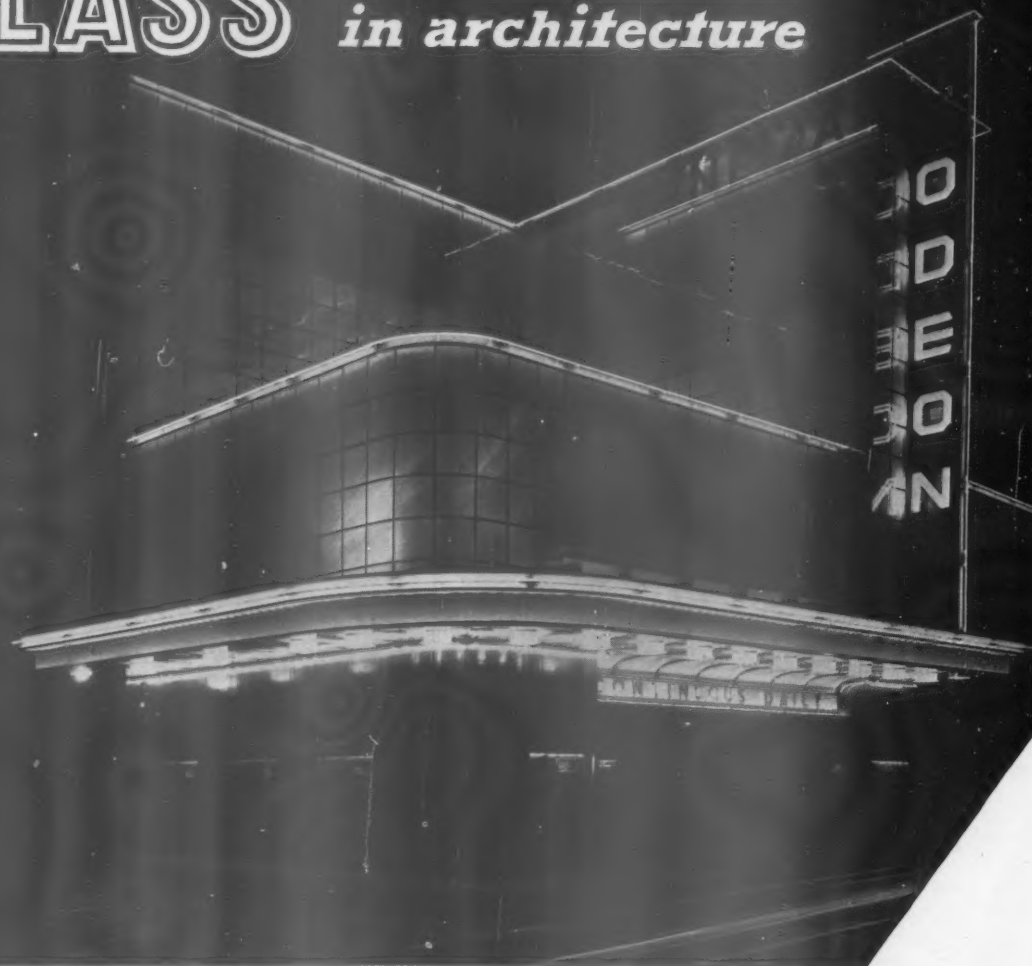
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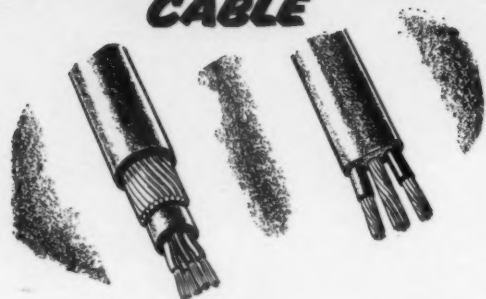


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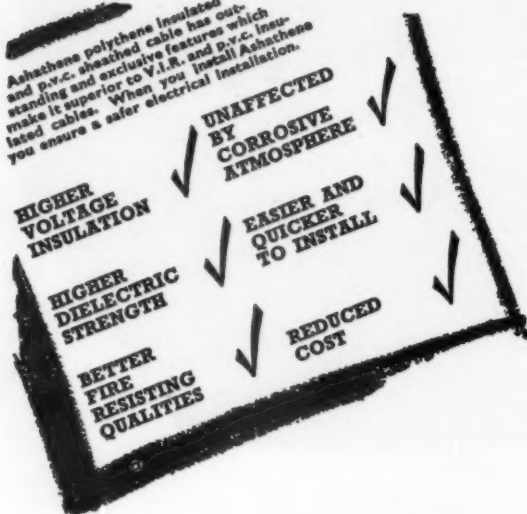
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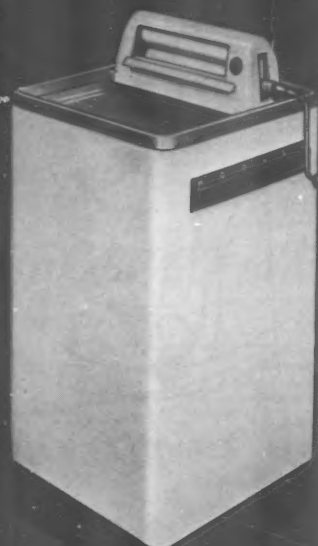
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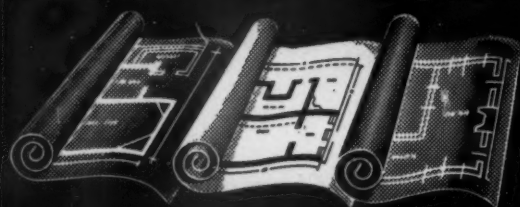
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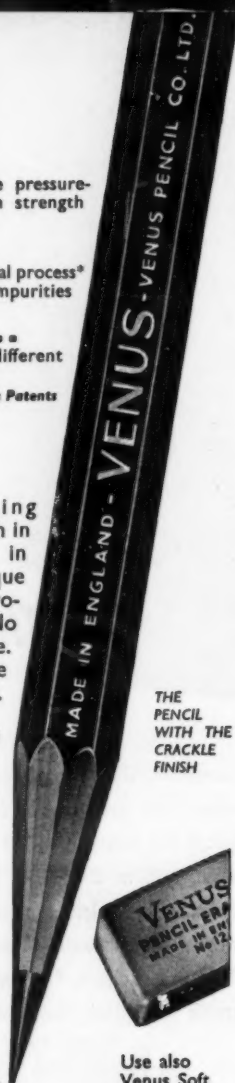
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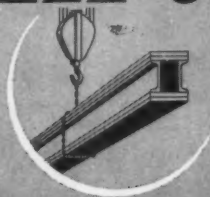
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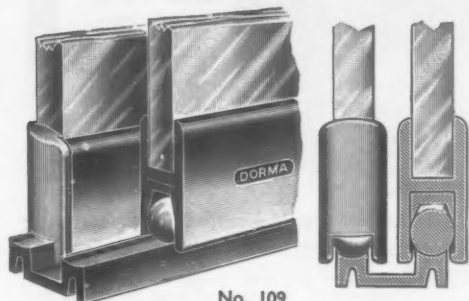
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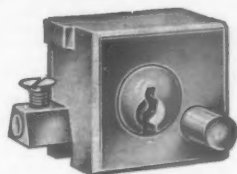
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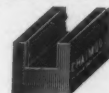
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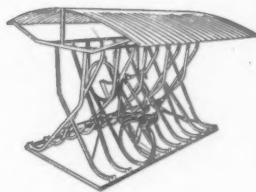
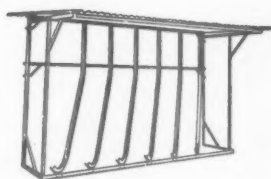
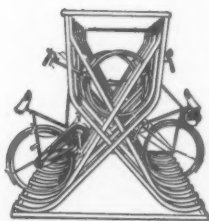
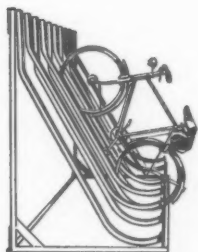
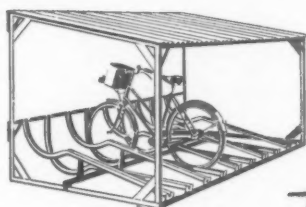
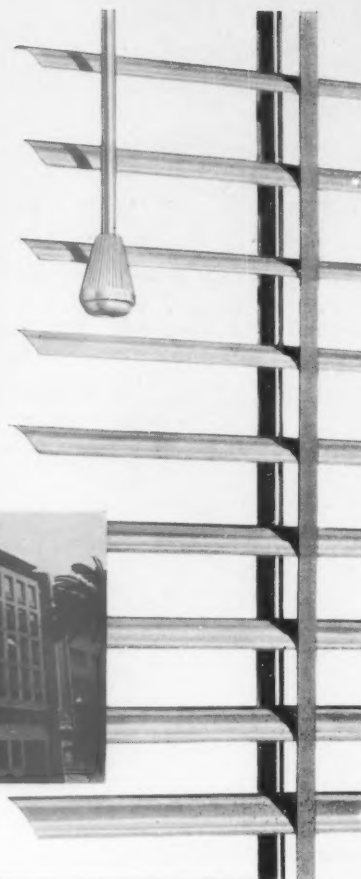
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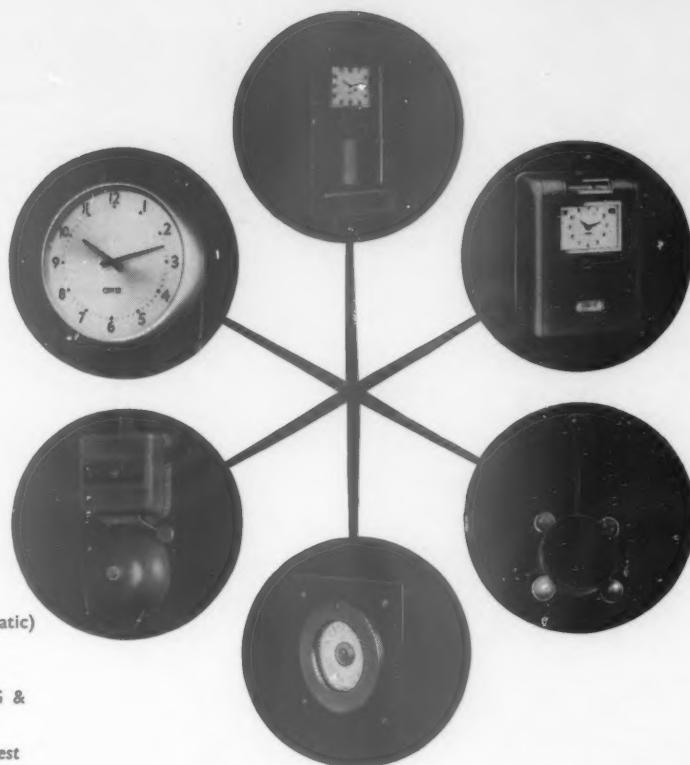
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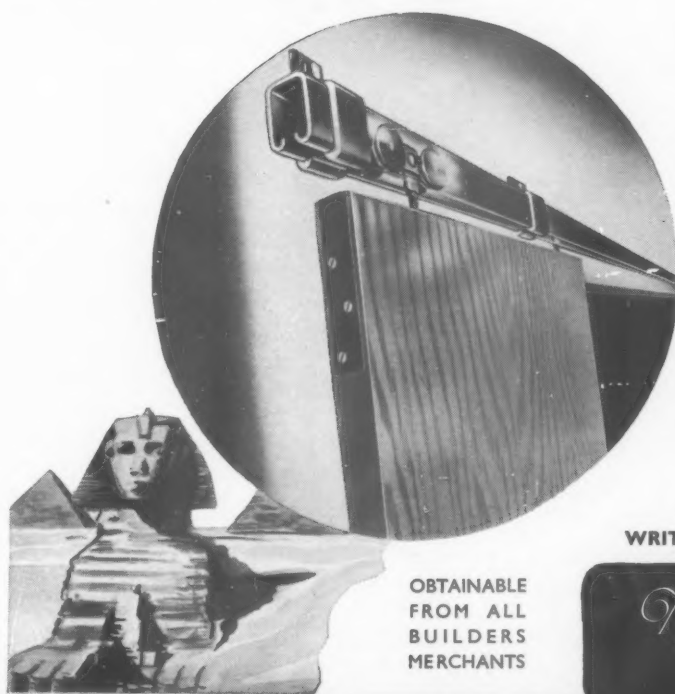
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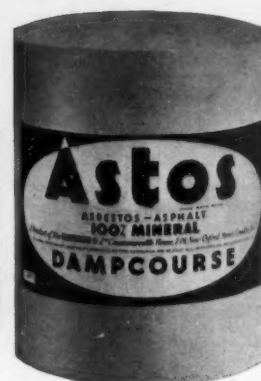
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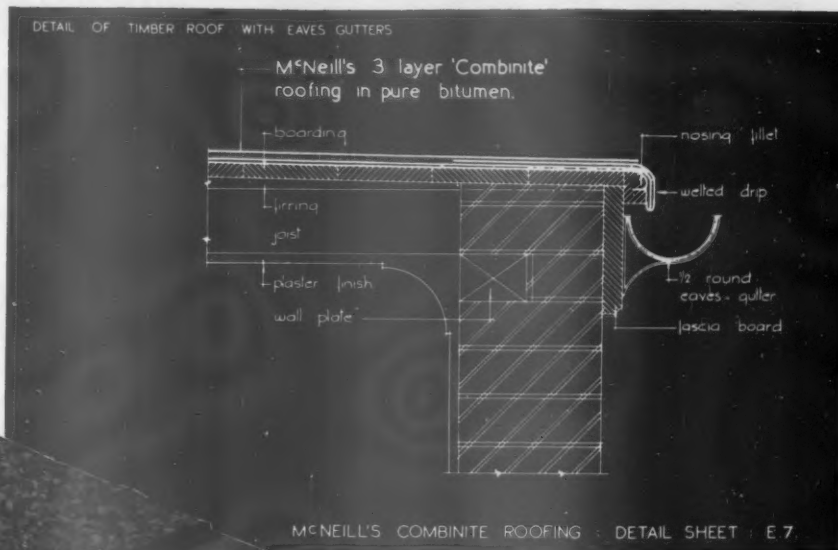
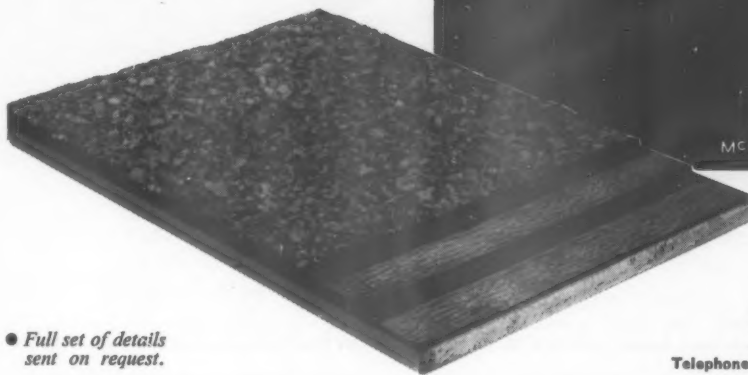
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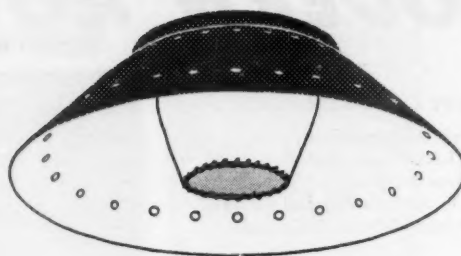


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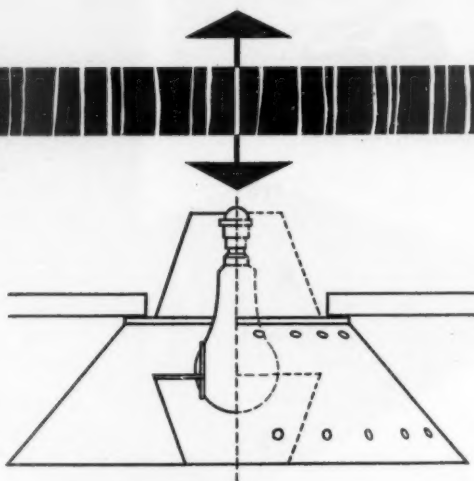
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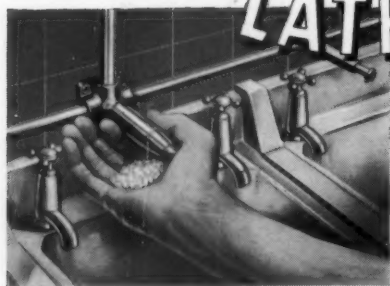
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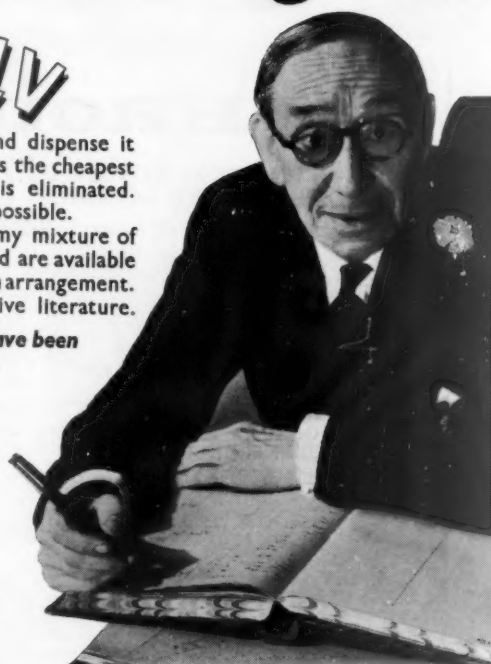
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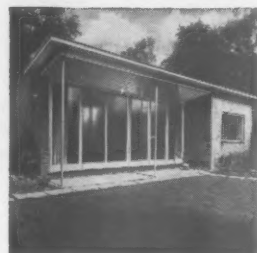
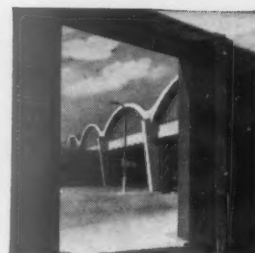
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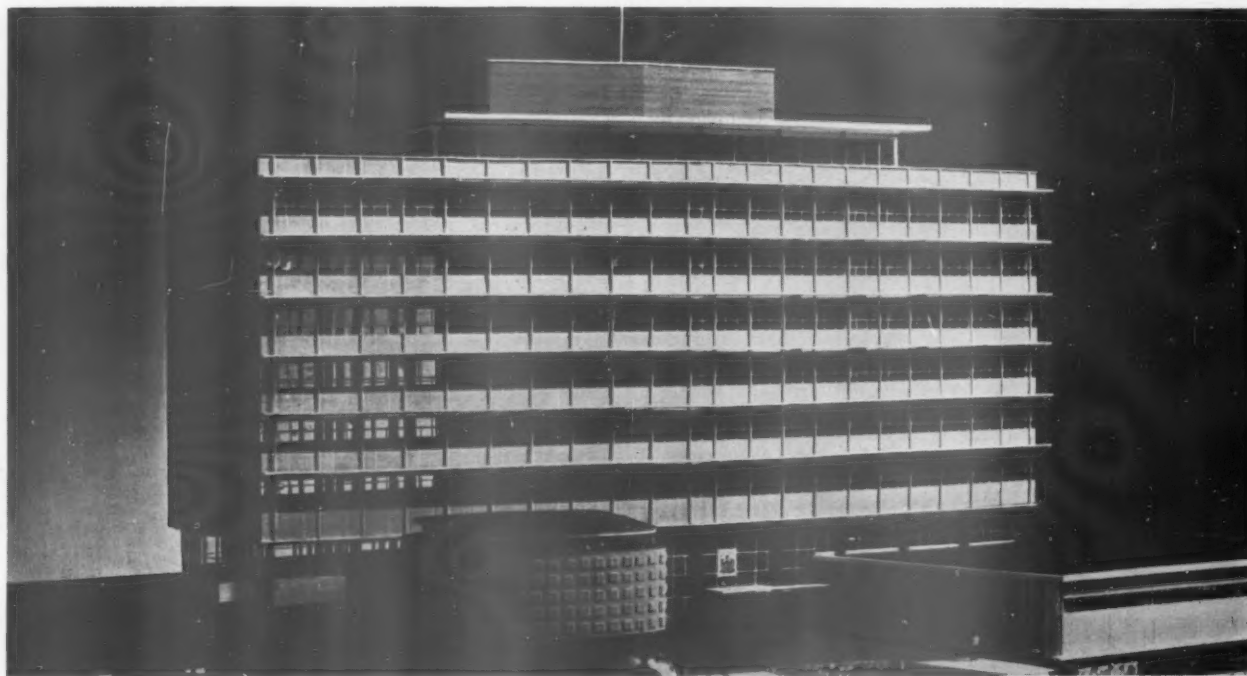
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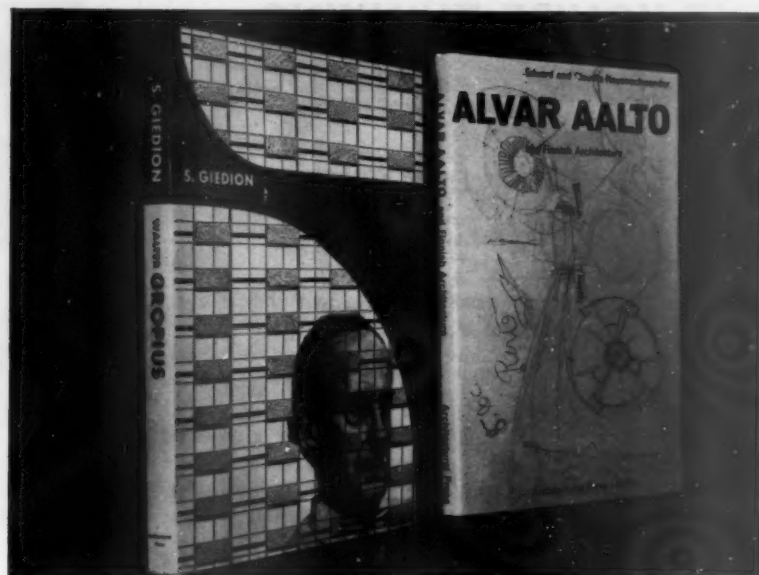
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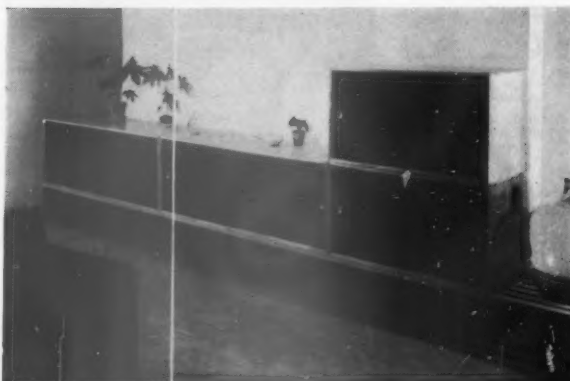
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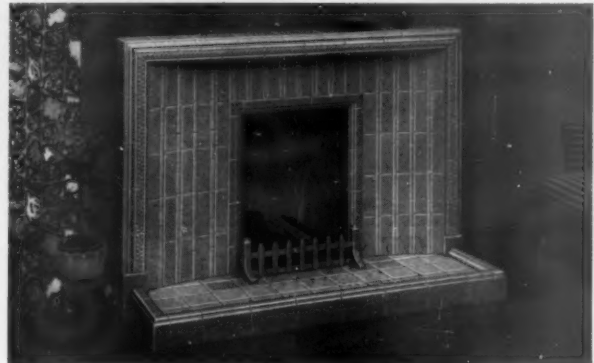
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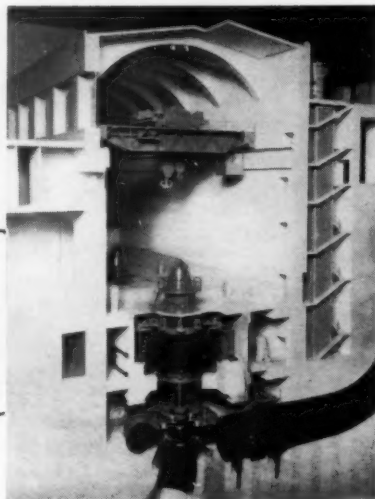
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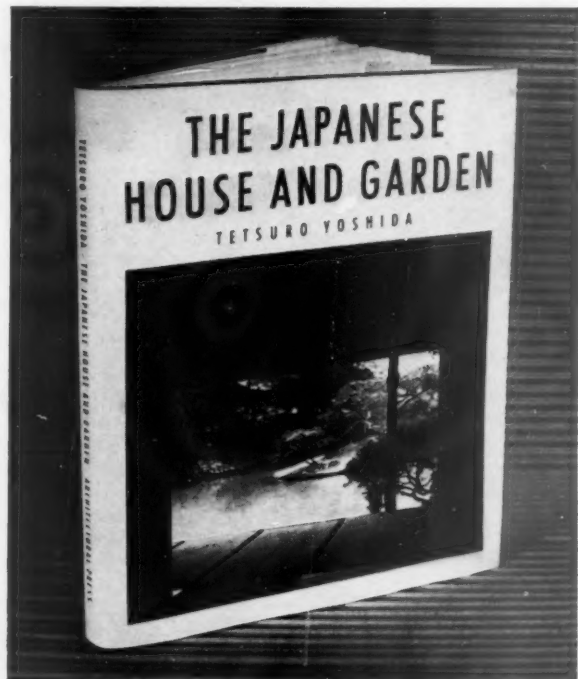
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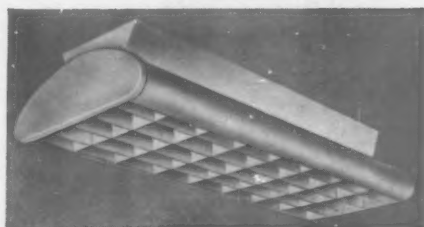
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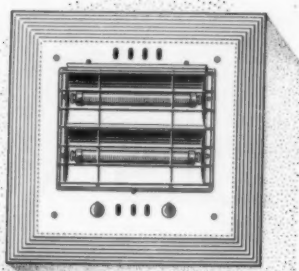
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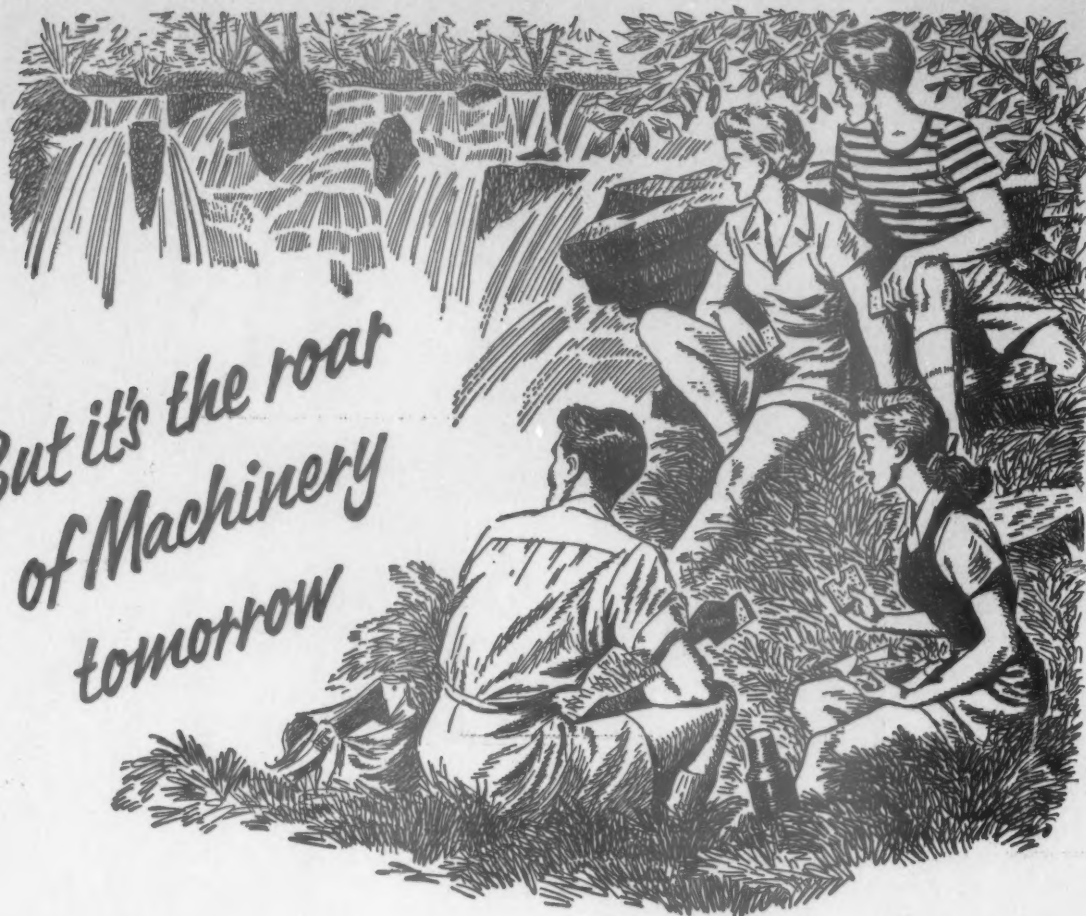
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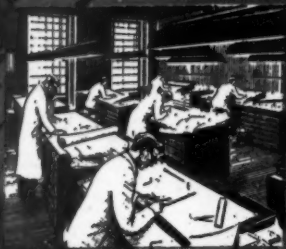
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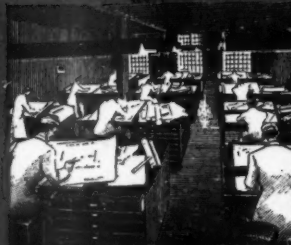
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